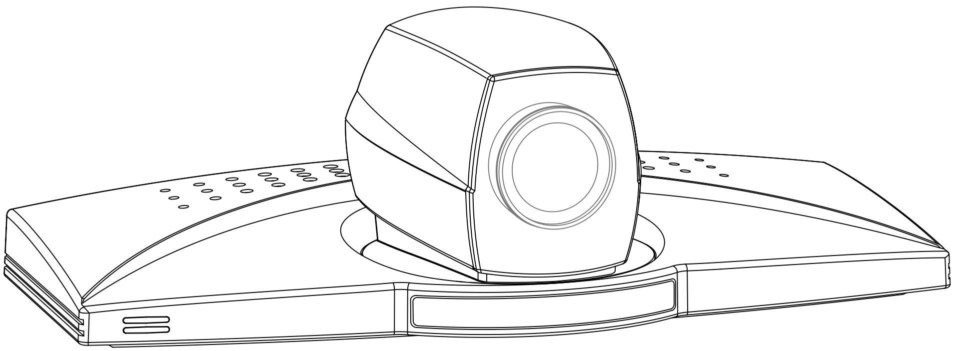
TANDBERG 550

User Manual



Software version E3

D12817-05

Trademarks and copyright

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This document was written by the Technical Support Department of TANDBERG, Norway. We are committed to maintaining a high level of quality in all our documentation. Towards this effort, we welcome your comments and suggestions regarding the content and structure of this document. Please fax or mail your comments and suggestions to the attention of:

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Environmental Issues

Thank you for buying a product which contributes to a reduction in pollution and thereby helps save the environment.

Our products reduce the need for travel and transport and thereby reduce pollution.
Our products have either none or few consumable parts (chemicals, toner, gas, paper).
Our products are low energy consuming products.

Battery handling:

Batteries for the Remote Control are Long Life and Alkaline batteries saving the environment, please follow guidelines on the packing material for handling and disposal of the batteries.

Waste handling:

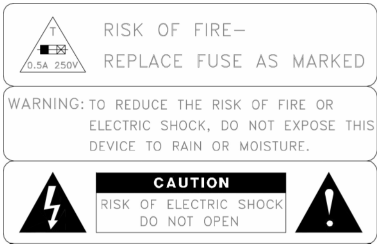
No need to send material back to TANDBERG as there are no consumables to take care of. Please contact your local dealer for information on recycling the product by sending the main parts of the product for disassembly at local electronic waste stations, marking recyclable parts so the waste station can disassemble and re-use these parts.

Production of products:

Our factories employ the most efficient environmental methods for reducing waste and pollution and ensuring the products are recyclable.

Operator Safety Summary

For your protection, please read these safety instructions completely before operating the equipment and keep this manual for future reference. The information in this summary is intended for operators. Carefully observe all warnings, precautions and instructions both on the apparatus and in the operating instructions.



Equipment Markings
The lightning flash symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltages” within the product’s enclosure that may be of sufficient magnitude to constitue a risk of electrical shock.

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions within literature accompanying the equipment.

Warnings
Water and moisture - Do not operate the equipment under or near water - for example near a bathtub, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool or in areas with high humidity.

Cleaning - Unplug the apparatus from the wall outlet before cleaning or polishing. Do not use liquid cleaners or aerosol cleaners. Use a lint-free cloth lightly moistened with water for cleaning the exterior of the apparatus.

Ventilation - Do not block any of the ventilation openings of the apparatus. Install in accordance with the installation instructions. Never cover the slots and openings with a cloth or other material. Never install the apparatus near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Grounding or Polarization - Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician.

Power-Cord Protection - Route the power cord so as to avoid it being walked on or pinched by items placed upon or against it, paying particular attention to the plugs, receptacles, and the point where the cord exits from the apparatus.

Attachments - Only use attachments as recommended by the manufacturer.


S3125A

Accessories - Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

Lightning - Unplug this apparatus during lightning storms or when unused for long periods of time.

ISDN cables - CAUTION - To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

Servicing - Do not attempt to service the apparatus yourself as opening or removing covers may expose you to dangerous voltages or other hazards, and will void the warranty. Refer all servicing to qualified service personnel.

Damaged Equipment - Unplug the apparatus from the outlet and refer servicing to qualified personnel under the following conditions:
- When the power cord or plug is damaged or frayed
- If liquid has been spilled or objects have fallen into the apparatus
- If the apparatus has been exposed to rain or moisture
- If the apparatus has been subjected to excessive shock by being dropped, or the cabinet has been damaged
- If the apparatus fails to operate in accordance with the operating instructions

Contents

IMPORTANT: PLEASE READ THIS SECTION CAREFULLY FOR OPTIMAL SYSTEM SET-UP.

Introduction

This User Manual is provided to help you make the best use of your TANDBERG system. The TANDBERG system offers superior audio and video quality in a fully-featured unit.

Features:
- Worldwide compatibility with other standards-based videoconferencing systems.
- Supports videoconferencing via both IP and ISDN* networks.
- Selection of up to 768 kbps call quality.
- Downspeeding - if channels are dropped during a videoconferencing session, the connection is automatically maintained without interruption.
- Streaming - broadcasting of audio/video via an IP network.
- Web-interface for system management, diagnostics and software uploads.
- Secure Conference[TF] - Embedded encryption for call privacy and security.
- Presenter Package* consisting of:
    - Digital Clarity[TF] - participants enjoy presentations of exceptionally high quality resolution video.
    - PC SoftPresenter[TF] - show PC images via your LAN connection supporting XGA resolution.

Your TANDBERG system is available with a variety of configurations.

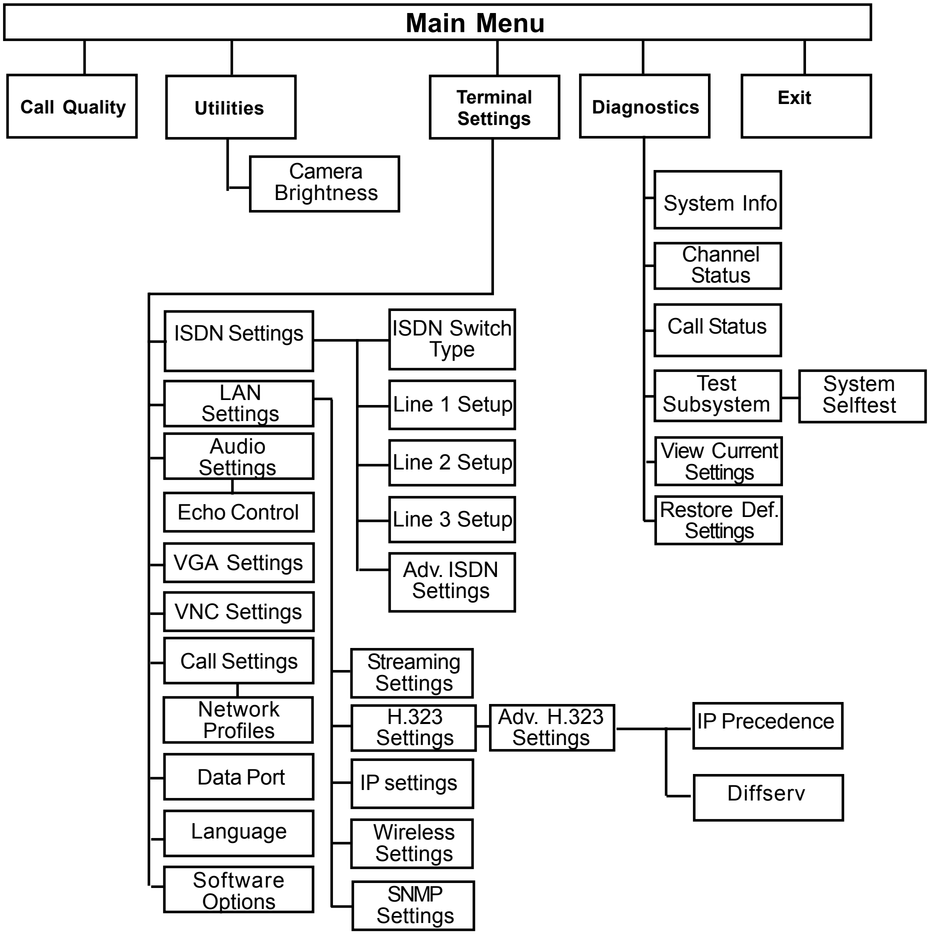
TIP In this guide, we've included helpful tips and notes. They appear like this one.

* - option. To check which options are installed, press MENU and the Quick key 'System Info'.
TF- TANDBERG first.

Menu structure

The on-screen menu structure is shown below.

Press the **MENU** key on the remote control to enter or leave the Main Menu.

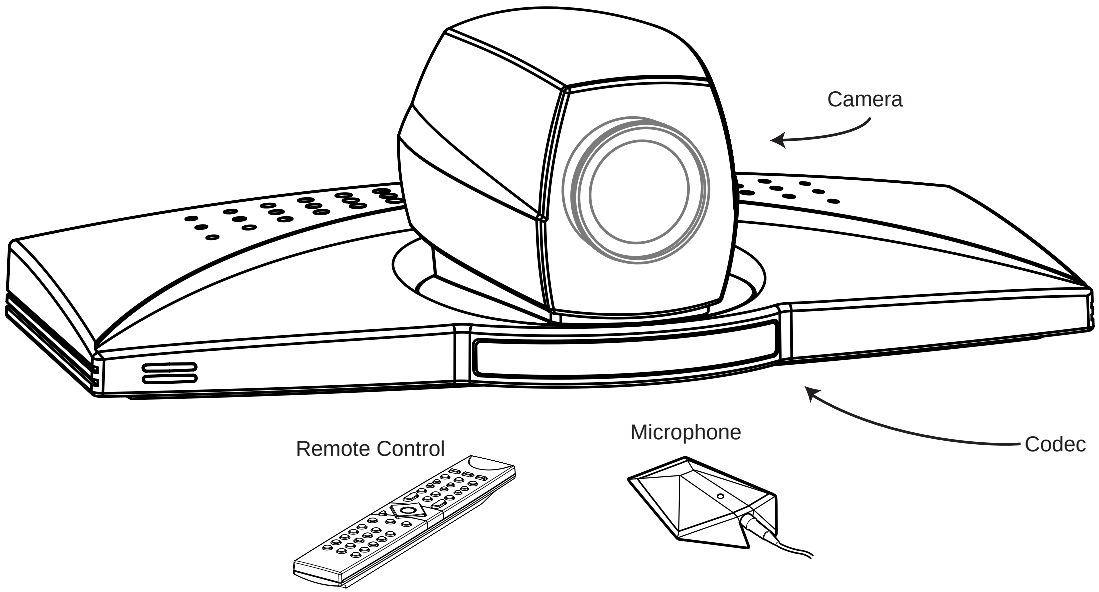




Press **UP/DOWN/LEFT/RIGHT** to navigate.
Press **OK** to select.

The TANDBERG 550 Videoconferencing System

At a glance — the TANDBERG 550 system



Camera

The built-in camera includes a high quality colour camera with a fast pan/tilt/zoom action. The camera is controlled by the system's infra-red remote control and operates pan/tilt and zoom.

Codec

The Codec is the heart of the system. The main task for the Codec is the compression of outgoing video, audio and data, the transmission of this information to a remote site and the decompression of the incoming information. Hence the name Codec. Intelligent Call Management (ICM) and the SoftMux are features built into the Codec.

Remote control

The remote control is used to control all functions of the system. There is a separate remote control for operating the monitor.

Table microphone

The high quality table microphone is specially designed to be used on a table during a video conference.

The ideal location for the microphone is on a flat surface at least 2m (6.5 ft) from the front of the system. The microphone cable should always point towards the system.

The system will automatically equalize sound levels. Loud and soft voices are picked up and transmitted to the far end at approximately the same level.

Installation

Precautions

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninstalled telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- The socket outlet shall be installed near to the equipment and shall be easily accessible.
- Never install cables without first switching the power OFF.
- 1TR6 network type is not approved for connection directly to the telecommunications network. This network type is only to be used behind a PABX.
- X.21 network type is not approved for connection directly to the telecommunications network. This network type is only to be used together with already approved equipment, and is not meant for direct connections to the telecommunication networks.
- V.35/RS-449/RS-366 network type is not approved for connection directly to the telecommunications network. This network type is only to be used together with already approved equipment, and is not intended for direct connection to the telecommunication networks.
- This product complies with directives: LVD 73/23/EC, EMC 89/366/EEC, R&TTE 99/5/EEC

Unpacking

The TANDBERG 550 consists of the following items:

- TANDBERG 550 with built-in camera
- Table Microphone
- Remote Control
- Batteries
- User Manual on CD
- Cables

Place the system centrally, on top of the monitor, close to the front and ensure it is stable.

Connecting cables

1. Microphone cable

- Connect the microphone to the microphone cable.
- Connect the microphone cable to the microphone input on the TANDBERG 550.

2. Monitor cable(s)

Scart (Europe):

- Connect the Scart adapter to one of the Scart connectors on your monitor.

Scart (Europe) & RCA/S-Video (US):

Audio:

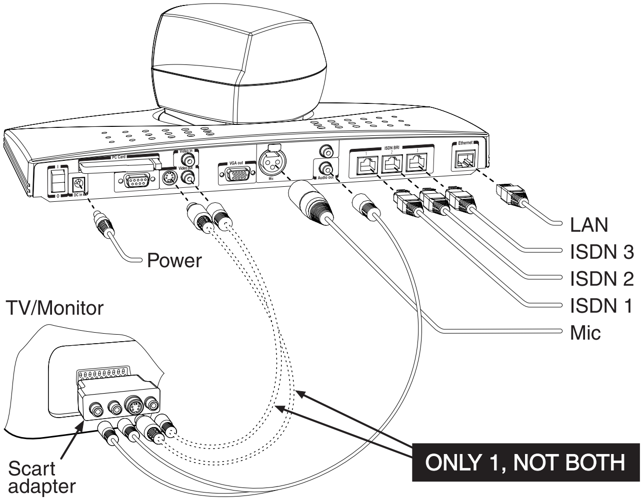
The cable with one RCA connector on one side and two RCA connectors on the other side:

- Connect the two RCA connectors to your monitor (or Scart adapter) Audio Left/Right connectors (the audio signal from the system is a monaural signal and therefore is fed into both audio-in sockets on the monitor).
- Connect the other end to '*Audio Out*'.

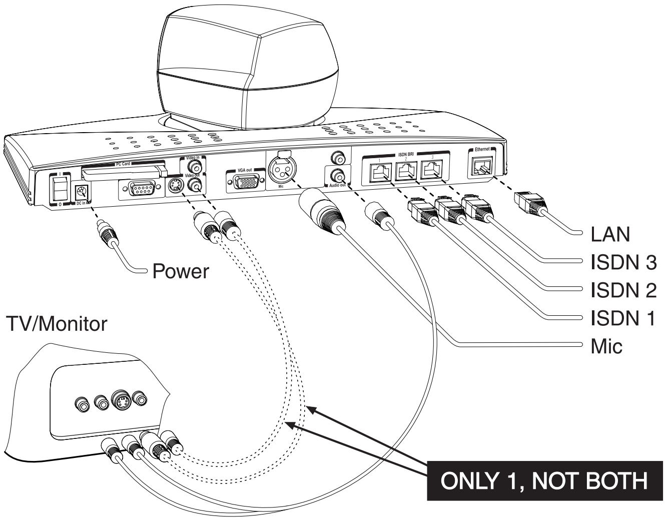
Video:

- Connect the S-video cable to the S-video connector on your monitor (or Scart adapter). If you do not have an S-video connector on your monitor, connect the RCA-RCA video cable to the RCA connector on your monitor.
- Connect the other end to '*Video Out*'.

Connecting with Scart



Connecting without Scart



3. ISDN cables

- Connect the ISDN cables to the ISDN sockets (S/T-interface) provided by the service provider. Your main number will be the number associated with the socket to which ISDN cable number 1 is connected.

NOTE SOME SOFTWARE VERSIONS DO NOT SUPPORT THREE ISDN LINES

North America: The TANDBERG 550 does not have a built-in network terminator. If your wall socket provides you with an ISDN U-interface, you will need an NT1 between your TANDBERG 550 and your ISDN line, see Appendix 1.

NOTE WRITE DOWN THE NUMBERS ASSOCIATED WITH EACH OF THE ISDN LINES. YOU WILL NEED THEM LATER TO CONFIGURE THE SYSTEM.

NOTE **CONNECTING TO THE SWITCHED 56 NETWORK:** WHEN CONNECTING TO THE SWITCHED 56 NETWORK YOU MAY USE ONE OF THE BRI INTERFACES ON THE TANDBERG 550. PLEASE REFER TO APPENDIX 2 FOR FURTHER INFORMATION.

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4. Power cable

- Connect the power supply to the ‘DC in’ input on the system.
- Connect the power cable to the power supply.
- Connect the power cable to an electrical distribution socket.

5a. LAN cable

- To use the system on LAN, connect a LAN cable from the ‘Ethernet’ connector on the system to your LAN.

5b. Wireless LAN - Insert PC Card

- Remove the “dummy” card by pressing the ‘Eject’ button next to the slot.
- Insert the Wireless LAN PC Card.

NOTE MAKE SURE YOU INSERT THE CARD IN THE RIGHT DIRECTION (WITH THE PRODUCT LOGO POINTING UPWARDS). PUSH THE CARD INTO THE SLOT UNTIL THE ‘EJECT’ BUTTON POPS UP.

See ‘Wireless LAN Settings’ for configuration.

Power on

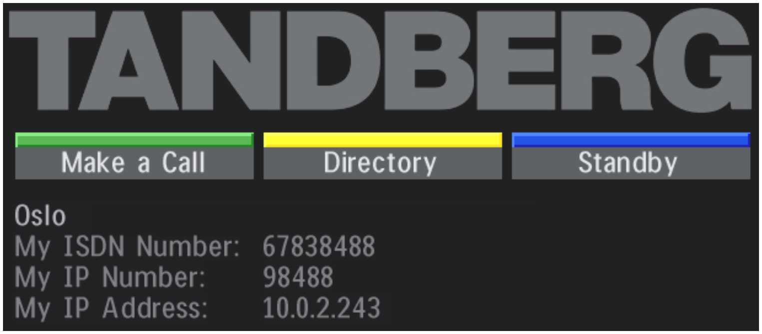
Power on the monitor and use the monitor remote control to select the Audio/Video input used (refer to your monitor manual). If you are using S-video from the system, remember to select S-Video input to avoid a black and white picture.

Select Audio/Video input on monitor

Selection of Audio/Video input used is generally performed by pressing the **0/AV** button on the TV remote control several times. Please refer to your monitor user manual for further information.

System configuration

- Switch the system on by activating the power switch on the system.
- After the system has performed a self-test routine, product logo and a ‘Welcome’ menu will be displayed on the monitor.



NOTE THESE SETTINGS ARE ESSENTIAL FOR OPTIMAL SYSTEM SET-UP.

- Enabled but unused ISDN lines (lines not active) should be disabled. Select the Quick Key ‘**System Info**’ (on the remote control) to view line status.

menu

PRESS **MENU** ON THE REMOTE CONTROL. SELECT THE MENU ‘**TERMINAL SETTINGS**’, ‘**ISDN SETTINGS**’. SELECT THE RELEVANT ‘**LINE SETUP**’ MENU AND SET ‘**ENABLED: OFF**’.

- Enter System Name to identify the system during an MCU conference. Select ‘**Utilities**’, ‘**System Name**’ and enter the name using the number keys (as on a mobile phone).
- Select the language you want to use in ‘**Terminal Settings**’, ‘**Language**’.
- To activate a software option, enter an option key (see paperwork accompanying your system), see ‘**Terminal Settings**’, ‘**Software Options**’.
- Press **CONNECT** on the remote control. A dial tone should be heard if the network is active.

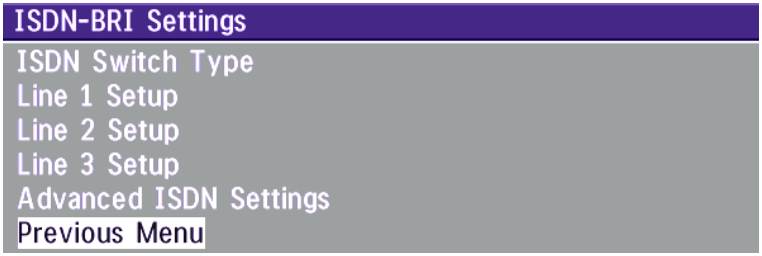
connect

- Using the monitor remote control, adjust the volume on the monitor to a level of your choice. This volume will be the default volume for all calls.

ISDN configuration

For each installation of the system it is necessary to configure the unit. All configuration parameters are available via the menu system.

• Press **MENU** on the remote control. Select the menu '**Terminal Settings**', then '**ISDN Settings**'.



Specify the settings for the network.

For details, follow the instructions in chapter 'Terminal Settings', 'ISDN-BRI Settings' in this manual.

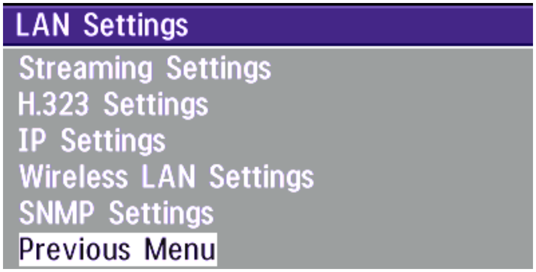
For further information refer to the examples in:

Appendix 1: Connecting the system to ISDN using NT1 network adapters

Appendix 2: Connecting the system to the Switched 56 network

LAN configuration

• Press **MENU** on the remote control. Select the menu '**Terminal Settings**', then '**LAN Settings**'.



Specify the necessary LAN settings according to the instructions from your LAN administrator. If there is an H.323 Gatekeeper present on your LAN, see also '**H.323 Settings**'.

For details, follow the instructions in chapter 'LAN Settings' in this manual.

Getting started

System start-up

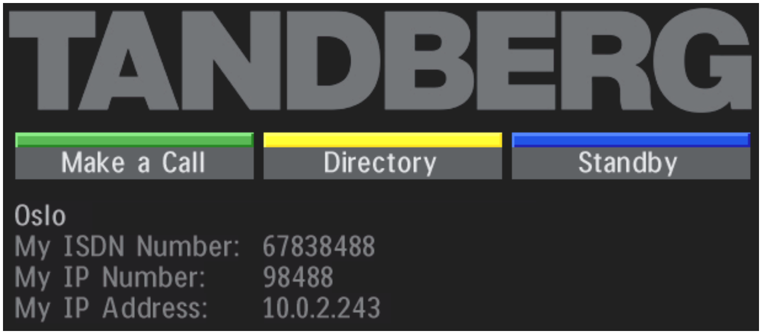
Your system should be in standby mode. When in standby mode, pressing any key or picking up the remote control will wake up the system. An incoming call will also wake up the system.

If the system does not respond, make sure the system is switched on by using the On/Off switch located at the rear of the Codec. After a few seconds you should see the ‘Welcome’ menu on the monitor.

If this does not help, verify that your monitor is switched on. To switch the monitor on you normally push the power button on the front of the monitor (depending on monitor type).

Welcome menu

After the system has performed a self-test routine, product logo and a ‘Welcome’ menu will be displayed on the monitor. This menu should provide you with the most important system information. The three color-coded commands shown correspond with the Quick keys on the remote control. This means that to make a call, you can press the green quick-key.



Basics

The system's most commonly used functions are accessible directly from the remote control by single key presses. In addition, the user interface is represented by on-screen menus. Individual items within the menus and lists can be selected by moving a white highlighter bar to the desired option.



Quick Keys
The three buttons on top of the remote control refer to the blocks at the bottom of the screen. The text inside the blocks will change depending on which menu is selected. The three Quick Keys have different colors.

Preset keys
Activate pre-stored camera positions.

Video source keys
Activate connected video sources.

Camera control and menu navigation keys
Frequently used keys allowing you to control your own camera and the far end camera, control your volume, select and move self-view, switch your microphone off and navigate in the menu system.

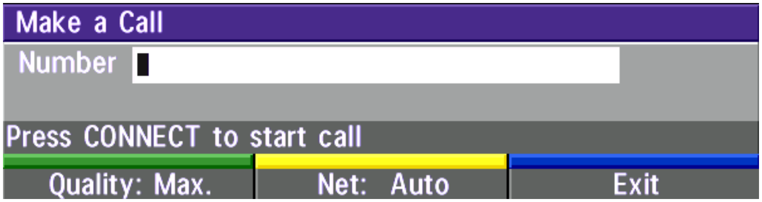
Dialing keys / Preset keys
Used to make a call. The twelve number keys, (0-9), #, * operate in the same way as on a modern push-button telephone. These buttons are also used when entering a name into a text field.

Making and ending calls

Making a call



To make a call, enter the number or the IP-address of the unit you wish to call using the Dialing keys and press **CONNECT**.



ISDN call

The system will, by default, try to connect using Quality: Auto (see table overleaf). If the requested quality (bandwidth) cannot be established, the system will establish a connection on as high quality as possible.

The SoftMux ensures high reliability and includes the unique Downspeeding feature. If channels are dropped during a meeting, Downspeeding automatically maintains the connection without interrupting the call in progress. The SoftMux also enables you to dial to other videoconferencing equipment, phones and mobile phones in the same way and provides you with on-screen, real-time feedback on the progress of a call.

LAN call

To make a call via a LAN, enter an IP-address by using a * as the ‘dot’ in the IP-address, e.g. 123*3*0*12 will be interpreted as 123.3.0.12. If a gatekeeper is present, you may place IP-calls using “telephone-style” numbers (an E.164 alias), according to the numbering plan implemented in the gatekeeper. The dialed number will then be translated into an IP-address by the gatekeeper.

Access Code

If the system requires an Access Code, enter the code and press OK to proceed making a call:



Using sub-address / extension address / MCU password

To specify an ISDN sub-address or its LAN equivalent extension address (TCS-4), add a star (*) after the number and then enter the sub-address/extension address.

Example: 12345678*10 (<number>*<Sub-address/extension address/MCU password>)

When calling to external MCU's requiring a password (TSC-1), this password can be added after the star (*). If no password is specified, a menu will prompt you to enter the password (after connected to the MCU).

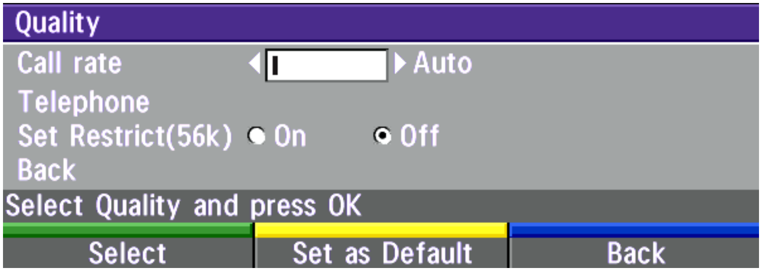
TIP Sub-address is used to address different systems on the same ISDN line.
TCS-4 is used to address different systems on a LAN, when dialing in via a gateway.

Selecting / setting default quality (bandwidth)

The default call quality setting '**Auto**' will be used if no specific quality is selected.

To select quality (bandwidth):

• Press the '**Quality**' Quick Key when you are in the dial menu. The Quality menu will then be displayed:



TYPE OF CALLS

Auto	384kbps on ISDN/768kbps on IP
Max	384kbps on ISDN/768kbps on IP
768	768 kbps (IP only)
512	512 kbps (IP only)
384	384 kbps (6B)
320	320 kbps (5B)
256	256 kbps (4B)
192	192 kbps (3B)
128	128 kbps (2B)(Bonding/H.221)
64	64 kbps (1B)(H.221)
Teleph	Telephone Call

NOTE SOME SYSTEMS AND SOFTWARE VERSIONS AND NETWORKS DO NOT SUPPORT ALL BANDWIDTH SELECTIONS.

• Choose the preferred quality by selecting the desired call rate in the 'Call Rate' field.

• You may also press the '**Set as Default**' Quick Key in order to make the selected bandwidth the default bandwidth for subsequent calls.

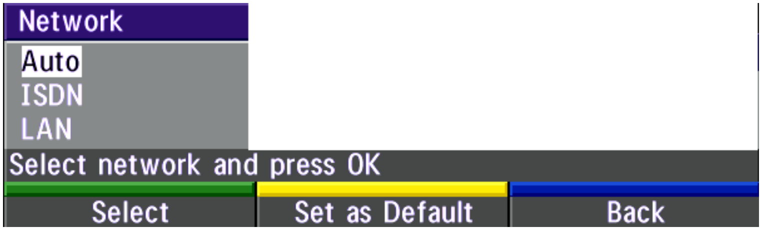
• Set '**Set Restrict (56k)**' to 'On' to make a restricted call. An indicator '**(56k)**' will be shown behind the number.

TIP **RESTRICTED CALL** A RESTRICTED CALL IS A CALL TO A 56 KBPS NETWORK. BY DEFAULT THE SYSTEM WILL DIAL AN UNRESTRICTED CALL (A CALL TO A 64 KBPS NETWORK) AND DOWNSPEED TO 56KBPS IF NECESSARY. TO FORCE A RESTRICTED CALL, SELECT 'SET RESTRICT (56K)'

TIP **DIALING TWO NUMBERS**
SOMETIMES (ESPECIALLY WHEN CALLING TO AND WITHIN NORTH AMERICA) IT IS NECESSARY TO DIAL BOTH ISDN NUMBERS WHEN MAKING A VIDEO CALL USING 2X64 KBPS OR 2X56 KBPS. SELECT '**128**' IN THE QUALITY MENU. WHEN YOU RETURN TO THE DIAL MENU, BOTH '**NUMBER:**' AND '**2ND:**' ARE DISPLAYED. ENTER THE SECOND NUMBER.

Selecting / setting default network

To select a specific network, press the ‘**Net**’ Quick Key when you are in the dial menu.:



1 Highlight the network to be used in your call.

2 Press ‘**Select**’ to select network or press ‘**Set as Default**’ to set the selected network as your preferred choice for this and all subsequent calls.

If ‘**Auto**’ is selected, the system will select a network based upon the following criteria:

• If an IP-address (e.g. 123*3*0*12) is entered, ‘**LAN**’ (H.323) is selected.

• If the first digits in the number match those set in ‘**H.323 Prefix**’ under ‘**H.323 Settings**’, ‘**LAN**’ is selected.

• In other cases, ‘**ISDN**’ (H.320) is selected.

If you want to assign a specific prefix to the network selection or if you want to define your own network configuration, see ‘**Network Profiles**’ in ‘**Call Settings**’, ‘**Terminal Settings**’.

Answer a call



To answer a call, press **CONNECT**.

Manual answer of a call is needed if the autoanswer facility is switched off. See 'Utilities' in 'Advanced use'.

End a call



To end a call, press **DISCONNECT**.

> **TIP** **ENDING A CALL:** SWITCHING OFF THE MONITOR WILL NOT DISCONNECT A CALL. TO DISCONNECT A CALL YOU SHOULD PRESS THE DISCONNECT KEY.

Correcting keying mistakes



To delete the last digit (or character) entered, press **DELETE**.

Directory

The directory is a local phone book that stores up to 100 directory entries including the last number dialed. The entries are sorted alphabetically.

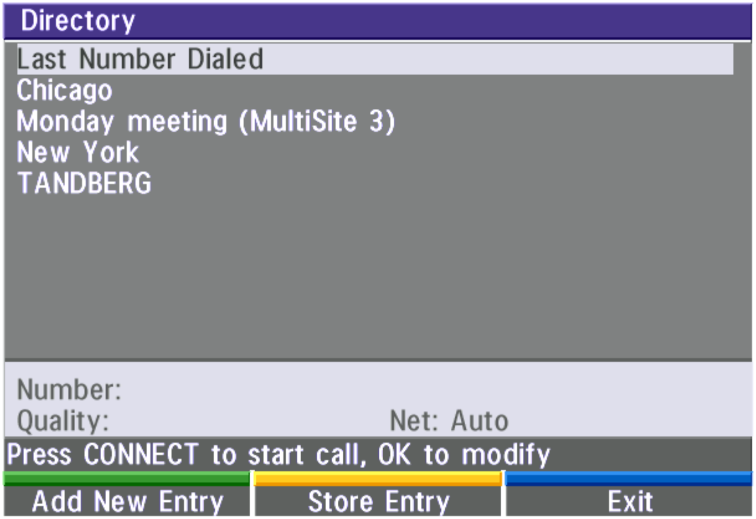
By using the dataport file system or external management systems like the TANDBERG Management Suite, it is possible to store 400 additional entries. These entries can only be changed from the dataport or the management system.

When the system receives an incoming call and the calling party's number is found in the directory, the calling party's name will be displayed instead of the number on the status line.

directory



Press **Directory** to bring up the following menu:



TIP When Last Number Dialed is highlighted, the second Quick key states 'Store Entry'. This makes it possible to store last dialed number.

To find an entry, key in the first letter, for example T, and scroll with the up/down arrows.

TIP The left/right arrows will move one page up/down.

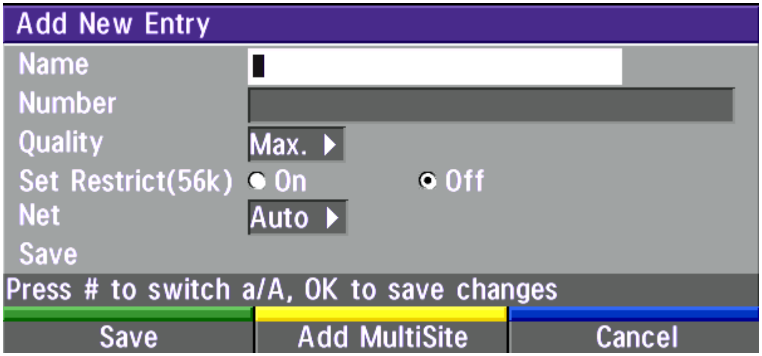
connect



To dial the selected entry press **Connect**. To edit the selected number before dialing, press **OK** (only point-to-point entries).

Add New Entry

When selecting '**Add New Entry**', an empty directory entry is displayed:



1 Move to '**Name**' and enter characters using the number keys on your remote control (as on mobile phones). Use '0' to enter 'space', use '#' to switch between upper- and lower case.

2 Move to '**Number**', key in the number and press **OK**. Specify only one number. If two numbers are required, both numbers should be specified (2x64 or 2x56 calls).

3 Select '**Quality**' to specify call rate to be used.

4 Select **'Set Restrict(56k)'** to 'On'to restrict the call rate. (A restricted call is a call to a 56Kbps network).

5 Select '**Net**' to specify the network profile to be used. See 'Selecting / setting default network'.

6 Select '**Save**' to save the entry and return to the Directory menu.

Delete Entry

When '**Delete Entry**' is pressed, the selected entry is deleted.

Edit Entry

To edit an entry, highlight the entry you want to edit and press '**Edit Entry**'. Edit the entry and select '**Previous Menu**' to return to the Directory menu.

Delete Entry

To delete an entry, highlight the entry and press **DELETE**.

General use

Adjusting volume



Press the **Volume** keys to adjust the volume level. An on-screen indicator will show the current level.

View outgoing video (selfview)



Press the **Selfview** key to view your outgoing video.

To change the image being viewed on the monitor during a call press **Selfview** until the desired image is shown (far end/selfview/still image).



Press **Move PIP** to move your selfview as a Picture-in-Picture to different corners of the screen or to switch it off.

Microphone on/off



To mute your microphone during a call, press **Mic Off**. An on-screen indicator will appear when the microphone is off. In a call, if audio is detected, the on-screen symbol will start to flash. Pressing **Mic Off** one more time will activate the microphone again.

Do Not Disturb / Sleep Mode

Press any Quick key when not in a call to activate the Quick Menu.



When Do Not Disturb is activated, the system will not accept any incoming calls. The caller will hear a busy tone when calling this unit. A status line will indicate when Do Not Disturb is active.

When Sleep Mode is selected, the following quick-keys are displayed:



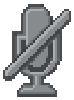
Pressing ‘**Sleep Now**’ puts the monitors in sleep mode. The system will still accept incoming calls.
Pressing ‘**60 Minutes**’ or ‘**3 Hours**’ will delay entering sleep mode accordingly.
Pressing any key or picking up the remote control will deactivate Do Not Disturb/Sleep Mode.
To see numbers, line status etc., select ‘**System Info**’. For further information see ‘Diagnostics’ in ‘Advanced use’.

On Screen Symbols

The system have a number of symbols signalling different settings.



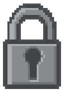
This symbol will be shown when the volume is turned off on the system.



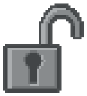
This symbol will be shown when the microphone is muted/turned off. It will also start to flash if audio is detected in the room during a call.



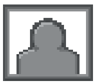
This double padlock symbol will be shown when AES* encryption (Secure Conference) is active.



This padlock symbol will be shown when DES encryption (Secure Conference) is active.



This open padlock symbol is shown during the initialization phase for encryption. During this period the call is not secure.



When the system is On Air in a Multisite conference, this symbol will be shown.

* Optional feature

Controlling the Main Camera

Moving / zooming camera

To control the Main Camera use the keys below:



for pan/tilt and



for zooming.

If the menu system is active, the arrow keys will navigate in the menus.

Focusing camera

The Main Camera is set to autofocus by default. If the Main Camera is moved (pan/tilt/zoom), autofocus will be switched On automatically for 5 seconds.

Selecting video sources

Press:



to select the video source to be transmitted to the far end.

‘Main cam’ will activate the main camera.

‘Aux’, ‘doc cam’ and ‘vcr’ will activate the auxiliary video input.

‘Pc’ will activate PC Presenter (VNC).

NOTE When selecting the doc cam or pc video sources the system will automatically request floor when connected to an external MCU. This feature can be switched off in the Utilities menu.

Voice Activated Camera Positioning

Through Voice Activated Camera Positioning and the use of two microphones, the camera will automatically view the speaker.

Setup

Before using camera tracking, the camera positions used must be stored at presets P7 (Mic1) and P8 (AudioIn).

Example: The camera position stored at P7 must be related to Mic1, therefore all participants who are located closest to Mic1 should be included in the P7 camera position etc. When camera tracking is activated and a person close to Mic1 speaks, P7 will be automatically selected.

Activating



Enable Camera Tracking by pressing '**CamTrack On**' in the '**Preset 0-9**' menu, which is activated by pressing the **P** button on the remote control. An on-screen indicator '**CamTrackOn**' will appear.

When activating another video source (e.g. document camera), camera tracking will be temporarily disabled until you re-select MainCam or a MainCam preset.



Pressing **Mic Off** will temporarily disable camera tracking.

A Voice Detector makes the system more tolerent of noise and ensures the camera will normally not be moved by noise such as paper shuffling etc.

Deactivating

Disable Camera Tracking by:

- moving the camera manually.
- activating a MainCam preset when MainCam is already activated.
- disconnecting the call.

An on-screen indicator '**CamTrackOff**' will appear.

Presets

The preset buttons enable you to pre-store up to ten different settings. Each preset is able to store:

- Video source
- Camera position, pan/tilt/zoom/brightness (if Main Camera)

Selecting presets

To select a pre-stored camera position, audio and video source, use the keys **P1 P2 P3** or press **P** until the on-screen indicator ‘**Preset 0-9**’appears and use 0-9 to activate P0-P9 presets. To exit ‘Preset’ mode, press **Ok**.



P1-P3 are the same presets as when pressing **P** and then a number key **1-3**.

Storing presets

To store the current camera position and video source:

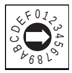


- Press **Store** once and wait for the on-screen indicator to appear.
- Then press one of the keys **P1 P2 P3** or a number key **0-9**.

Storing preset 10 to 15

To store preset 10-15 the TANDBERG Tracker has to be used:

- Select which preset to be used on the TANDBERG Tracker (see separate documentation).



- Press **Store** once on the TANDBERG Remote Control and wait for the on-screen indicator to appear.
- Then press the ‘single person’ button on the TANDBERG Tracker.

See the Tracker section in ‘Peripheral Equipment’ for more information about the TANDBERG Tracker.

Far end camera control (FECC)



Press the **Far End** key until the ‘**FarEndCamera**’ on-screen indicator is displayed.

For this feature to operate the far end must support ‘Far end camera control’ (H.281).

While activated you will be able to control the far end’s camera (pan/tilt/zoom) and presets.

To control the far end camera use the keys below:



for pan/tilt and



for zooming.

Far end presets can be activated by pressing the keys **P1 P2 P3** or the number keys **0-9** to activate presets P0-P9.

Selection of far end videosources is achieved by pressing the buttons below when in FarEndCamera mode:



TIP It depends on the far end system configuration if the far end document camera is displayed when **Doc Cam** is pressed.

To prevent others controlling your camera, select ‘**Far End Camera Control:Off**’ in ‘**Utilities**’.

Sending and receiving snapshots

When a snapshot is sent, received or requested, it will be stored in the graphics memory. When a new image is sent or received, the old image will be erased. When disconnecting the call, the image will be erased.

Sending a snapshot



- Press **SNAPSHOT**.

> **NOTE** WHEN CONNECTED TO AN EXTERNAL MCU, SENDING A SNAPSHOT WILL AUTOMATICALLY INITIATE A FLOOR REQUEST.

- To send a snapshot from another video source (e.g. the document camera), select source:



- Press **SNAPSHOT**.

> **TIP** SEE '**PRESENTATIONS**' MENU FOR AUTOMATIC SETUP OF THIS OPERATION.

Viewing a snapshot

The last sent or received snapshot will automatically be displayed on your screen.

- Press **SELFVIEW** to return to normal view.

> **NOTE** REQUIRES '**AUTO-DISPLAY SNAPSHOT: ON**' IN '**PRESENTATIONS**'

Receiving a snapshot

A received snapshot will automatically be displayed on your screen.

- Press **SELFVIEW** to return to normal view.

> **NOTE** REQUIRES '**AUTO-DISPLAY SNAPSHOT: ON**' IN '**PRESENTATIONS**'

Requesting a snapshot

- Press **FAR END** until the '**FarEndCamera**' on screen indicator is displayed.
- Press **SNAPSHOT** . A snapshot from the far end is automatically displayed.

External MCU control functions

A Multipoint Control Unit (MCU) enables several sites to participate in the same conference.

An MCU conference can have different modes:

Voice Switched means that the image of the person currently speaking will be broadcast to all the other conference participants. This will remain the case until another participant starts to speak.

Continuous Presence shows several participants on the same screen at the same time.

Chairman Control functionality enables one participant to control the meeting by selecting which of the conference participants is to be broadcast to the other participants.

The system can control external MCUs in a very flexible manner using the functions described below.

TIP During an MCU conference, a status line will provide information about the conference. To remove this status line, select '**Utilities**', '**MCU Status Line: Off**'.

NOTE In order to make use of Chair Control features the MCU must support Chair Control (H.243).

NOTE This system does not have a built-in MCU, but it can connect to another system with MCU functionality. The system can remotely control external MCU features using the functions described below.

Quick Menu

TIP PRESS ANY QUICK KEY WHEN IN A MULTIPOINT CONFERENCE TO ACTIVATE THE QUICK MENU.



This menu provides access to the most commonly used MCU functions.

If ‘ **Request Floor**’ is selected, ‘Request Floor’ will change to ‘Release Floor’.

If ‘ **View Site#**’ is selected, ‘View Site #’ will change to ‘End View’.

Selecting ‘**Take Chair**’ will send a request to take chair. If granted, the Quick keys will be:



If ‘**Floor to Site#**’ is selected, ‘Floor to Site#’ will change to ‘Rel. Floor to Site’.

If ‘**Release Chair**’ is selected, you will return to the original Quick menu.

Request floor

When requesting the floor, the MCU will broadcast your video in full screen to all other participants in the conference. If the MCU conference has a chairman, a floor request is sent to the chairman.

You will remain ‘On Air’ until either you select ‘**Release Floor**’ or the chairman decides to release the floor to another participant.

NOTE FLOOR WILL AUTOMATICALLY BE REQUESTED WHEN SENDING A SNAPSHOT OR SELECTING THE DOC CAM OR PC VIDEO SOURCES.

Release floor

You choose ‘**Release Floor**’ to take you ‘Off Air’. You should do this when you wish to make the floor available to the other participants in the conference.

View site #

Allows you to view any participant in the conference other than the participant currently 'On Air'.

End view

Allows you to stop viewing the site previously chosen with '**View Site #**', and returns your view to the site that is currently 'On Air'.

Take chair

Allows you to request chairmanship of the conference. If no one else is currently chairman the MCU will give you the chair.

Release chair

Allows you to relinquish the privileges of chairmanship of the conference.

Floor to site #

Allows the chairman to select which of the conference participants is to be broadcast to all other participants.

Rel. Floor to site

Allows the chairman to release the floor.

Web-interface

It is possible to access and maintain the system remotely via a local area network (LAN) using a standard Web-browser.

Connect your system to a local area network.

Configure your codec:

- Press MENU, select ‘**Terminal Settings**’, ‘**LAN Settings**’, ‘**IP Settings**’.
- Specify IP-assignment ‘**DHCP**’ or ‘**Static**’. If DHCP is selected no other settings are needed. If Static is selected, ‘**IP-address**’, ‘**IP-subnet mask**’ and ‘**Gateway**’ must be specified.

NOTE The system must be restarted before changes in the ‘IP Settings’ menu can take effect.

Example:

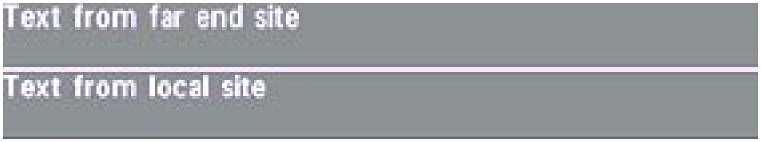
IP-assignment:	Static
IP-address:	196.9.200.129
IP-subnet mask:	255.255.255.0
Gateway:	196.9.200.21

See ‘LAN Settings’ in ‘Advanced use’ for further information.

- Start your Web-browser. In the address field type the IP-address of the codec. Enter the password and the Web-page of the codec will be shown. The default password is ‘**TANDBERG**’.

Text Chat / Closed Captioning

While in an ISDN or IP call to another system supporting Text Chat (T.140), select ‘Text Chat’ from the Web-page of the codec. Enter text in the window displayed. When selecting ‘Send Text’, the text will be displayed on the local and far-end monitor as shown below:



The local Text Chat window can be closed manually from the Web-interface by pressing ‘Close Window’. It will also close automatically after a few minutes without activity.

Streaming

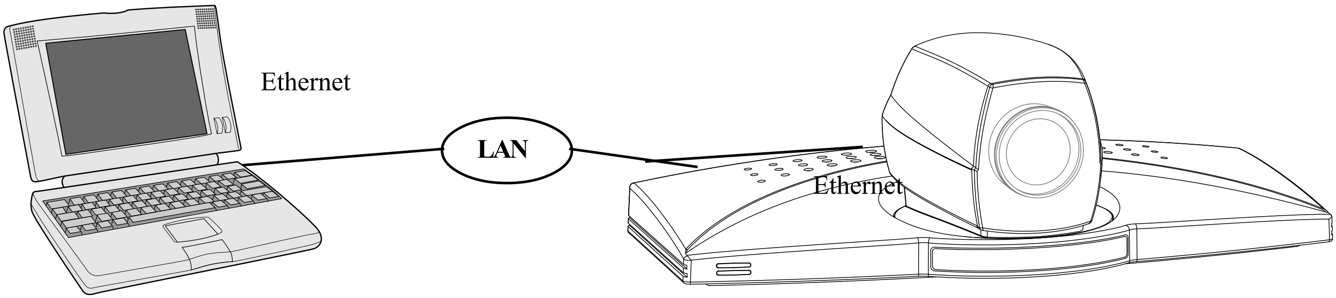
To view streaming, select 'Streaming' from the Web-page of the codec. See separate 'Streaming' section in this manual for further information.

Snapshots

Snapshots of current stream, selfview, and far end streams are accesible via http. See Appendix 5 for descriptions of the possible snapshot files.

PC SoftPresenter

A PC image can be displayed on the system using PC SoftPresenter. See 'VNC Settings' for further information.

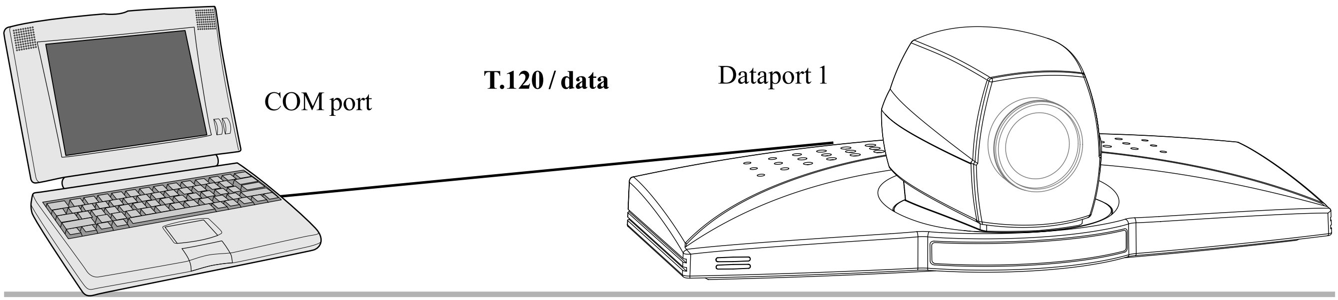


T.120 and other PC applications

A PC can be connected to the system using a serial cable. This will enable interactive editing, file transfer and application sharing between two computers.

Appropriate communication software should be used (for example: Microsoft NetMeeting, Intel ProShare Premier, Windows HyperTerminal, Procomm Plus and so forth.)

The system has been specially designed to work with interactive programs and includes a data channel that can send and receive data to and from the far end at speeds of up to 38,400 baud.



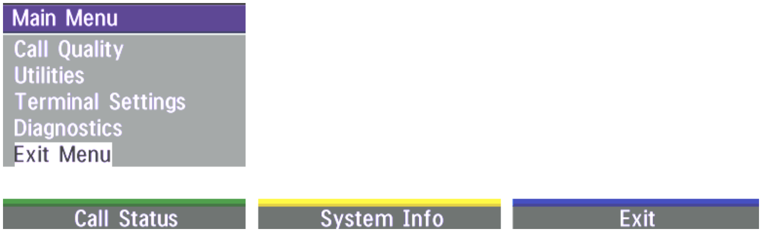
Advanced use

Main menu

The menu system can be used to select available functions and utilities for the system.



To enter the menu system and the main menu, press the **MENU** key. You may leave the menu system at any time by pressing the **MENU** key.

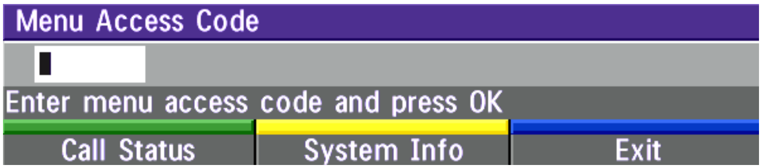


TIP A MENU STRUCTURE MAP IS PROVIDED IN THE SECTION 'MENU STRUCTURE' AT THE FRONT OF THIS MANUAL.

NOTE IN THE FOLLOWING MENU DIAGRAMS THE DEFAULT SETTINGS ARE HIGHLIGHTED.

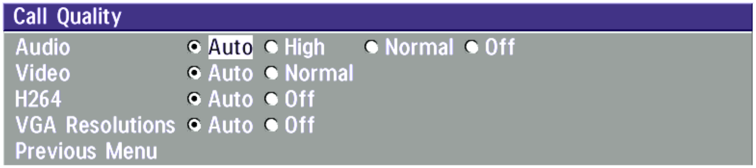
Menu Password

It is possible to password protect the menus on the TANDBERG system. To activate this feature, specify a Menu Password in the Utilities menu. By doing this, only dialing and camera control commands will be available. When pressing the **MENU** key, the user will be asked to enter the Menu Password as can be seen below.



Call quality

The Call Quality menu allows you to select the preferred quality of your call.



NOTE Due to actions or limitations at the far end you may not always be able to achieve the selections you want.

Audio

Auto	Optimized audio quality depending on bandwidth.
High	High audio quality (G722) regardless of bandwidth.
Normal	Telephone quality (G728) regardless of bandwidth.
Off	No audio is transmitted.

TIP **Auto**

1-4 channels:	G722.1 is selected.
5 or more channels:	G722 is selected.

Video

Auto	Optimized video quality (H.263/H.261).
Normal	Normal video compression and decompression.

H.264

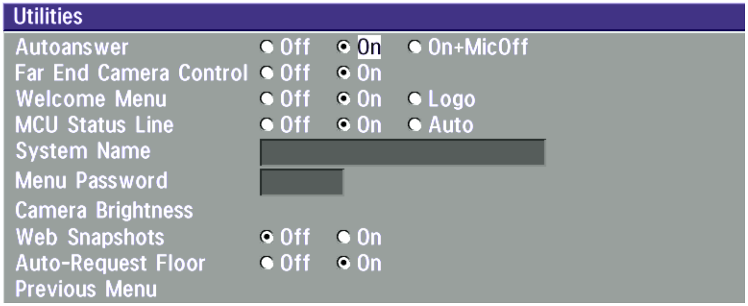
Auto	Optimized video quality depending on what is available.
Off	H.264 video compression and decompression will not be used.

VGA Resolutions

Auto	VGA capabilities (VGA/SVGA/XGA) and SIF capabilities will be transmitted and enabled.
Off	VGA capabilities will not be transmitted. Useful if far end can not handle these capabilities.

TIP SIF capabilities will enable better video quality for NTSC systems (SIF: 352x240, 4SIF: 704x480).

Utilities



Autoanswer

On: The system will automatically answer all incoming calls.

On+MicOff: The system will automatically answer all incoming calls and switch the microphone off when the call is connected. Press **MicOff** to switch the microphone on.

Off: You must manually answer all incoming calls by pressing the **Connect** key.

Far end camera control

On: The far end will be able to:

- Control your camera
- Select your video sources
- Activate your presets
- Request snapshots

Off: None of the four features above on the local system can be accessed by the other side, however you will still be able to control the camera on the far end.

Welcome Menu

On: A 'Welcome menu' with useful information on how to use the system will be displayed. See 'Getting started' section.

Off: The Welcome menu' will not be displayed.

Logo: If a logo is uploaded to the system, it will be shown when this button is selected.

MCU status line

On: The MCU indicators will be displayed and provide information about the conference.

Off: The MCU indicators will not be displayed.

Auto: The MCU indicators will be displayed for a few seconds and then timed out. When grabbing the remote control, the indicators will be shown again.

System Name

Identifies the system:

- during an MCU conference call.
- when using the Web-interface.
- when the codec is acting as an SNMP Agent.
- towards a DHCP server.
- as an H323 ID.

Menu Password

Enter the code whch should be entered to get access to the menus on the TANDBERG system. When pressing the '**Menu**' button on the remote control, the user will be asked to enter the Password written here.

Camera Brightness

To manually adjust the brightness select '**Manual**' and use the arrow keys to adjust.

Web Snapshots

The system is able to generate JPEG snapshots and provide them to the world outside by request (as 'http get' or via ftp). See Appendix 5 for descriptions of the possible snapshot files.

On: Snapshots generation is enabled.

Off: Snapshots generation is disabled.

NOTE SNAPSHOTS ARE NOT GENERATED IF THE CONFERENCE IS SECURE.

Auto Request Floor

On When selecting 'Doc Cam' or 'PC' video sources, the system will automatically Request Floor when connected to a MCU conference.

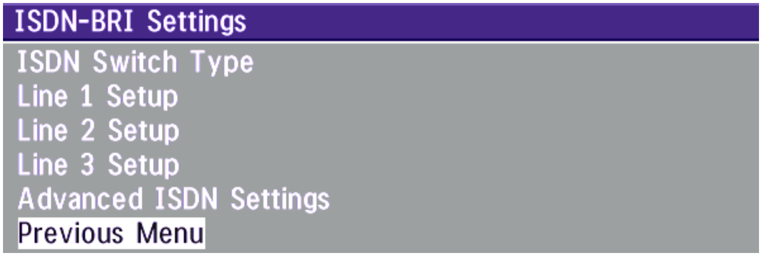
Off When selecting 'Doc Cam' or 'PC' video sources, the system will not Request Floor.

Terminal Settings

This menu provides basic network setup for the system and should be used when installing the system.



ISDN-BRI Settings



NOTE Some software versions do not support 3 ISDN lines and some of the Line Setup lines will be grayed out.

NOTE If National ISDN is selected, press the Quick key '**Auto BRI Config**' to request an automatic configuration of the line & SPID settings (switch must support GR-2941-Core).

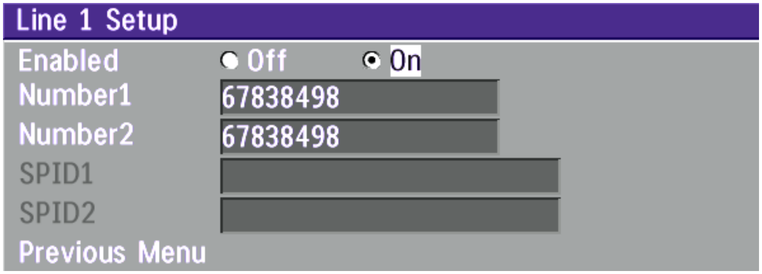
NOTE Mandatory ISDN-BRI settings
To make sure your system will work properly using ISDN-BRI, make the following settings:
- Set ISDN switch type
- Enter ISDN line numbers (+ SPIDs if required)
- Disable unused lines

ISDN switch type

Select the type of ISDN network connected to your unit.

Line setup

This menu allows you to program the numbers associated with your ISDN line.

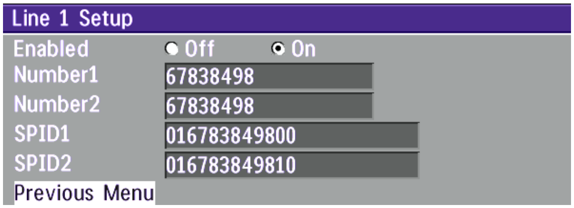


If you want to use this ISDN line, you need to set ‘**Enabled: On**’ and enter the numbers of your ISDN line. If some of the ISDN lines are not to be used, set ‘**Enabled: Off**’.

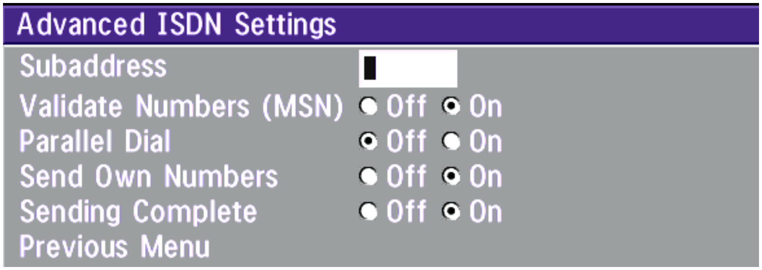
National ISDN and AT&T Custom ISDN might require SPID numbers associated with your ISDN numbers. If you have received two different SPID numbers for each ISDN line from your telephone company, you must program both.

Example:

	Numbers	**SPIDS**
ISDN BRI 1:	67838498	016783849800
	67838498	016783849810
ISDN BRI 2:	23478060	012347806000
	23478070	012347807000
ISDN BRI 3:	23478420	012347842000

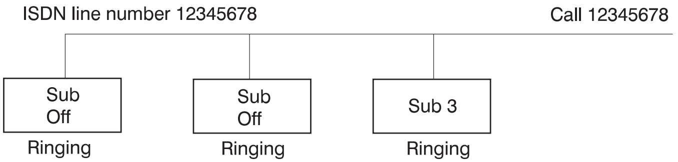


Advanced ISDN settings



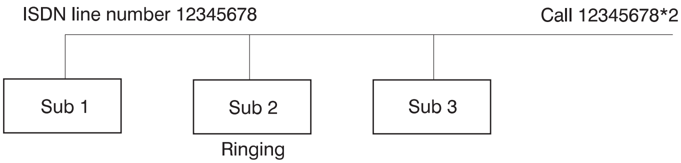
Subaddress

Using a subaddress enables you to connect up to eight ISDN terminals to the same ISDN telephone number and line. The terminals are addressed by using different subaddresses.



To call a terminal with a subaddress, separate the ISDN telephone number and the subaddress with a '*'.

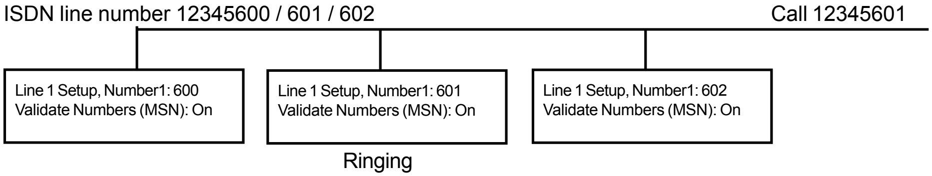
Example: 12345678*2 (Up to four digit subaddresses are possible)



NOTE THIS SERVICE HAS LIMITED ACCESS ON SOME ISDN NETWORKS.

MSN (Multiple Subscriber Number)
The use of MSN (Multiple Subscriber Number) enables you to attach different ISDN terminals, with different numbers, to the same physical ISDN telephone line. If '**Validate Numbers**' is set to '**On**' only calls to those numbers specified in the Line Setup menus will be answered. This service can be ordered from your telephone company.

Parallel dial



On Channels will be dialed and connected in parallel when setting up a BONDING call.

Off Channels will be dialed one by one which may increase the dialing time.

Send Own Numbers

On The system will send its own numbers to the far end.

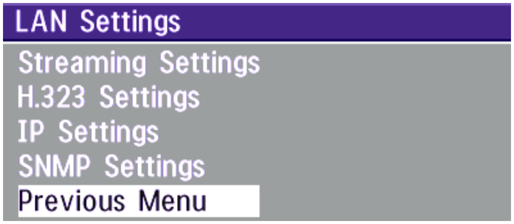
Off The system will not send its own numbers to the far end, but please note that the network may still send your numbers to the far end.

Sending Complete

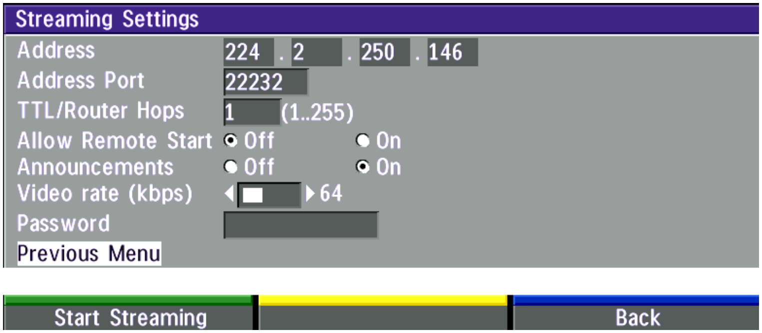
On The system will send the ISDN message information element 'Sending Complete'.

Off The system will not send 'Sending Complete'.

LAN Settings



Streaming



NOTE WHEN STREAMING, A CALL CAN NOT BE MADE.

NOTE AN ON-SCREEN INDICATOR IS SHOWN WHEN STREAMING IS ACTIVE.

Address

Address is defined as the IP-address of a streaming client, streaming server or a multicast address. Giving an address in the range 224.0.0.1-239.255.255.255 will broadcast the stream to any host that has joined the specified multicast group. Specifying normal broadcast address 255.255.255.255 will broadcast to any members on the LAN.

Address Port

If several codecs are streaming to the same IP-address, different ports have to be used in order for the client to know which stream to receive. If the first codec streams on port 2240 and the second codec on port 2250, the client has to specify which port to listen to. Video is transmitted on the specified port, audio is transmitted on the port number 4 above the specified video port, in this case 2244 and 2254.

TTL/Router Hops

This is used for streaming data to limit how many routers the data should pass before it is rejected. If TTL is set to 2, data will not traverse more than two router hops.

Allow Remote Start

On Streaming can be started from external user interfaces like the Web-browser or Telnet session.

Off Streaming can only be started from the Video Conferencing System using the remote control, or by using the Dataport. This will prevent activation of streaming using Web browser or Telnet sessions.

Announcements

On The codec will announce to the network that it is streaming. This enables a streaming client (e.g. a PC) to connect to the codec’s streaming session. Used by Cisco IP/TV.

Off No announcement packets will be transmitted.

Video Rate

Defines the Video streaming rate from the system. Range is 16kbps - 320kbps. In addition, audio (G.711) streaming rate is 64kbps, providing a maximum streaming rate of 384kbps.

Password

Set password so that only participants entering correct password will be able to view the streaming session. Entering a password will prevent unauthorized people from accessing the streaming session.

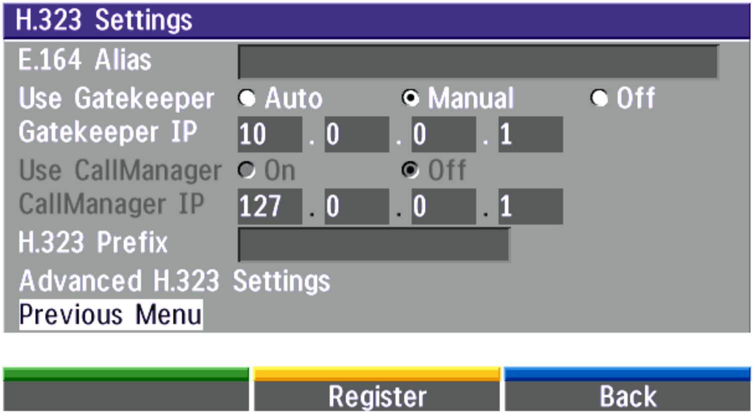
Start/Stop Streaming

By pressing the Quick Key labeled ‘ Start Streaming ‘, the Streaming session will start. To stop the stream, press the same quick-key, which will be labeled ‘ Stop Streaming ‘ while the streaming-session is active. Pressing Disconnect will also stop the streaming session.

How to view streaming

After streaming is started, an easy way to view the streamed audio/video is to start your Web-browser and enter the IP-address of the streaming system. After the Web page of the codec is shown, click on ‘Streaming’. Alternatively, enter http://<codec ip-address>/stream.sdp.

H.323 Settings



E.164 alias

This is the E.164 address of the codec. The E.164 address is equivalent to a telephone number, sometimes combined with access codes. Valid characters are 0-9,* and #.

When using a gatekeeper the codec will send a message to the gatekeeper containing both the E.164 address and the system name of the codec. The codec will not register with the gatekeeper if the E.164 alias is not set.

Use Gatekeeper

Auto The codec will automatically try to register on any available gatekeeper. If a gatekeeper responds to the request sent from the codec within 30 seconds this specific gatekeeper will be used. If no gatekeeper responds, the codec will not use a gatekeeper for making H.323 calls and hence an IP-address must be specified manually.

Manual The codec will use a specific gatekeeper identified by ‘**Gatekeeper IP-address**’.

Off The codec will not use a gatekeeper and an IP-address must be used in order to make an H.323 call.

Gatekeeper IP-address

This is the gatekeeper IP-address if you specify ‘**Use Gatekeeper: Manual**’.

Use CallManager

On The codec will use a specific Cisco CallManager identified by the IP-address specified in '**CallManager IP**'. The CallManager replaces a gatekeeper, therefore '**Use Gatekeeper**' must be set to '**Off**' before this can be done. When '**On**', '**Use Gatekeeper**' and '**Gatekeeper IP**' is disabled.

Off The codec will not use Cisco CallManager.

CallManager IP

The CallManager IP-address specified here will be used if '**Use CallManager: On**'.

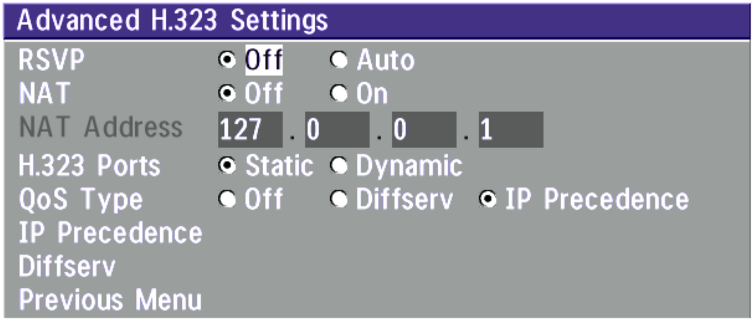
H.323 Prefix

When dialing a number prefixed with digits specified by '**H.323 Prefix**', and with '**Net: Auto**', an H.323 call will be placed. *Example:* H.323 Prefix is '555'. Dialling '55582' with 'Net:Auto' will select LAN.

Register

Pressing '**Register**' will send a gatekeeper registration request. This request will also be sent when leaving the menu.

Advanced H.323 Settings



NOTE THESE SETTINGS ONLY HAVE AN EFFECT IF THEY ARE SUPPORTED BY YOUR IP INFRA STRUCTURE.

RSVP

Auto Resource Reservation Protocol enables the endpoints to request the optimal amount of bandwidth for the duration of an IP video conference.

Off Resource Reservation Protocol is switched off.

NAT

NAT, Network Address Translation, is used in small LAN's, often home offices, when a PC and a videoconferencing system is connected to a router with NAT support. NAT support in the videoconferencing system enables proper exchange of audio/video data when connected to an external videoconferencing system (when the IP traffic goes through an NAT router).

When NAT is On, the NAT Server Address will be shown in the startup-menu: 'My IP Address: 10.0.2.1 (NAT)'

NAT Address

This must be the external/global IP-address to the router with NAT support. Packets sent to the router will then be routed to the codec.

In the router, the following ports must be routed to the codec's IP-address:
Port 1720
Port 5555-5560
Port 2326-2365
Please contact your TANDBERG representative for further information.

H.323 Ports

Static When selecting static H323 ports for TCP connections the ports 5555 or 5556 will be used for Q931 and H245 respectively.

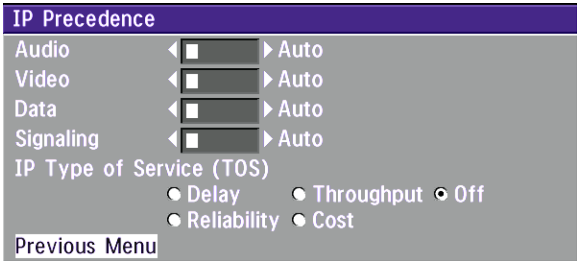
Dynamic The operating system will allocate which ports to use when opening a TCP connection.. The reason for doing this is to avoid using the same ports for subsequent calls as some firewalls consider this as a sign of attack.

QoS Type

Off	No QoS is used
Diffserv	Diffserv QoS method is used. Please see below for details.
IP Precedence	IP Precedence QoS method is used. Please see below for details.

IP Precedence

Used to define which priority audio, video, data and signalling should have in the network. Higher numbers indicate higher priority. The priority ranges from 0(off) - 7 for each type of packets .



Auto will provide the following priority:

Audio	4
Video	4
Data	3
Signalling	6

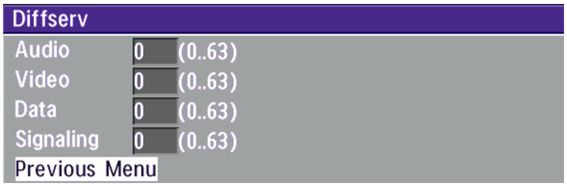
IP Type of Service (TOS)

Helps a router select a routing path when multiple paths are available.

Delay	Tells the router to minimize the delay
Throughput	Tells the router to maximize the throughput
Reliability	Tells the router to maximize the reliability
Cost	Tells the router to minimize the cost

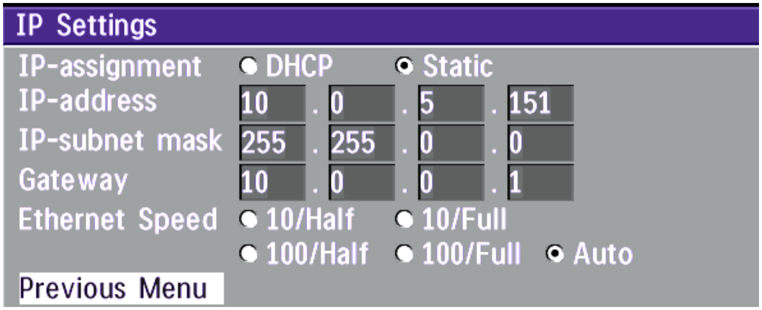
Diffserv

Used to define which priority Audio, Video, Data and Signaling packets should have in an IP network. The priority ranges from 0 to 63 for each type of packets.



IP Settings

> **NOTE** CHANGES IN THIS MENU WILL NOT HAVE ANY EFFECT BEFORE THE SYSTEM IS RESTARTED.



IP-assignment

DHCP (Dynamic Host Configuration Protocol) can be selected when a DHCP server is present.

DHCP: IP-address, IP-subnet mask and Gateway are not used because these parameters are assigned by the DHCP server.

Static: The codec’s IP-address and IP-subnet mask must be specified in the IP-address field.

IP-address

IP-address defines the network address of the codec. This address is only used in static mode. In DHCP-mode, the assigned IP-address can be found on the Welcome Menu.

IP-subnet mask

IP-subnet mask defines the type of network. This address is only used in static mode. Your LAN-administrator will provide the correct value for this field.

Gateway

When using DHCP, the default gateway will be set automatically. If the LAN utilizes static IP addresses, IP address, subnet mask, and default gateway must be specified by the LAN administrator.

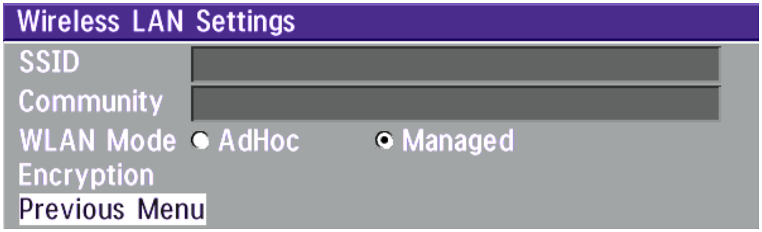
Ethernet Speed

Auto	The codec will auto-detect the speed/duplex on the LAN.
10/Half	The codec will connect to the LAN using 10Mbps speed/Half Duplex.
10/Full	10 Mbps speed/Full Duplex.
100/Half	100 Mbps speed/Half Duplex.
100/Full	100 Mbps speed/Full Duplex.

Restart

Pressing the Quick key ‘Restart’ will restart your system without having to use the On/Off switch on the codec. If IP-assignment is changed, it is sufficient to use this Quick key to restart the system.

Wireless LAN Settings



SSID (Service Set Identification)

Example “WLANNETWORK”. Defines a local network id for this wireless region. It must be the same for all end points and the access point. An endpoint will find the access point if the SSID is correct, however if the encryption key is faulty it will not transmit any data.

Community (optional)

Community can be used when connecting to an access point where the SSID is the same. Example “Unit2”.

WLAN Mode

AdHoc: Used when **not** communicating with an access point.
Managed: Used when communication is made through an access point.

Restart

Make sure the corresponding settings are programmed into the access point. Press “Restart” in order to activate the settings.

Required cards

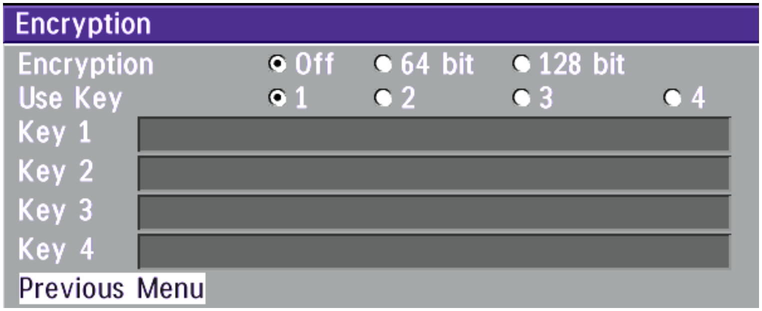
- Compaq WL110 11 Mbps Wireless LAN
- Lucent Orinoco 11 Mbit/s SILVER
- Lucent Orinoco 11 Mbit/s GOLD
- Cisco Aironet 350 series (AIR-PCM 350 series)
- Enterasys Networks RoamAbout 802.11 DS High Rate
- Melco Buffalo WLI-PCM-L11G

Recommended access point

- Compaq WL410 base station

NOTE The PC Card/PCMCIA-card used must comply with the relevant regulations for such cards in the country where it is used.The unit must be supplied by power supply (AC-DC adapter) PowerBox SPN-270-12, which complies with the requirements for limited power source according to IEC/EN 60950

Encryption



Encryption
Select if you want to encrypt your Wireless LAN connection.

Use Key
Select which of the keys shown below you want to use.

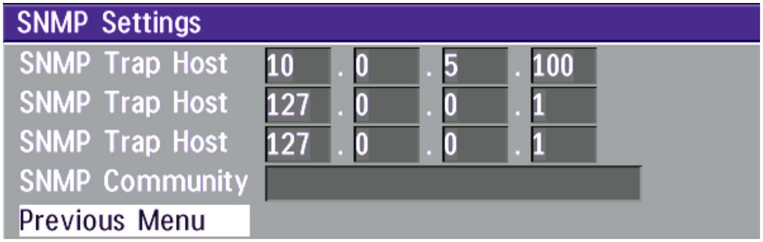
Key 1-4
The 64-bit keys can consist of a leading star (*) and 5 characters.
The 128-bit key can consist of a leading star (*) and 13 characters.

Start with a * and then the text. Example: 128 bit key: *secretkeyhome.

> **Encryption using Hex numbers**
> The 64-bit keys can consist of 10 hexadecimal digits. Example: “de01ad4dbe”. The 128-bit key can consist of 26 hex numbers.

NOTE INCREASED ENCRYPTION LEVEL WILL DECREASE PERFORMANCE.

SNMP Settings



SNMP Trap Host

SNMP (Simple Network Management Protocol) is used for monitoring and configuring different units in a network. The codec's **SNMP Agent** responds to requests from **SNMP Managers** (a PC program etc.). **SNMP traps** are generated by the agent to inform the manager about important events.

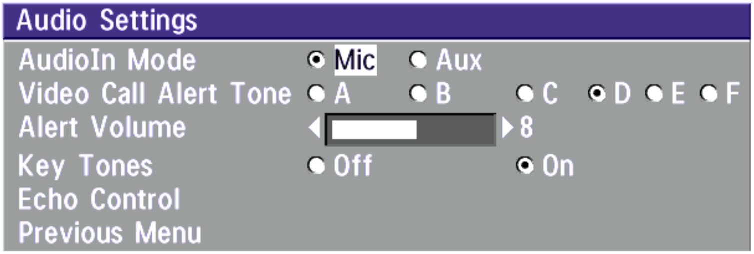
SNMP Trap Host identifies the IP-address of the SNMP manager.

SNMP Community

SNMP Community names are used to authenticate SNMP requests. SNMP requests must have a 'password' in order to receive a response from the SNMP agent in the codec.

NOTE The SNMP Community name is case sensitive.

Audio Settings



AudioIn Mode

Mic: If a microphone is connected to AudioIn (through a microphone amplifier), select '**Mic**'. This will activate echo cancelling and will prevent the far end from hearing their own audio. In addition to echo cancellation, the system has built-in noise reduction algorithms (NR). NR reduces constant background noise (e.g. noise from air-conditioning systems, cooling fans etc.). In addition, a highpass filter (Humfilter) reduces very low frequency noise.

Aux: If playback equipment is used, select '**Aux**'. No echo cancelling will be performed.

NOTE Echo Cancelling: It is your echo canceller that improves the audio quality experienced by the other site. When you hear an echo of your own audio it is most likely the far end's echo canceller that is malfunctioning.

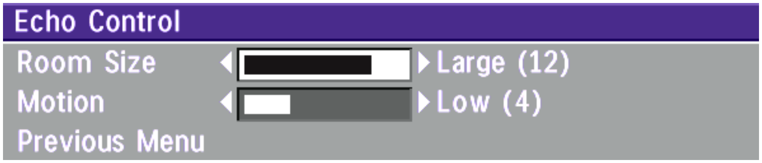
Video Call Alert Tone / Alert Volume

Different ringing tones may be selected. You may also select different volume levels for the ringing tone.

Key Tones

The Key Tones may be switched on and off.

Echo Control



Room Size

This setting allows optimization of the echo canceller to the acoustic size of the room. Hard walls, many windows etc. might require higher settings than expected. Carpets, curtains etc. might require lower settings. Adjust the setting (NOTE: on the far end) if one of the following symptoms occur:

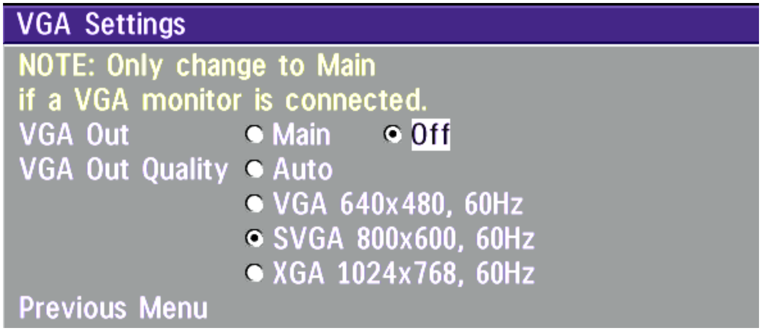
- There is still some echo of your own audio. Increase the setting.
- The system adapts slowly to acoustic changes in the room. Decrease the setting.

After a change, the system will need a few seconds to re-adjust.

Motion

If you experience echo caused by movements in the room, increase the value.

VGA Settings



NOTE If you set 'VGA Out' to 'Main', make sure you have a VGA-monitor connected to the VGA-output on the system.

NOTE iCIF will not be available when VGA Out is Main or Dual.

VGA Out

To enhance the local video quality, a VGA monitor may be connected.

Main: Should be used if you want to use a VGA monitor as your main monitor. Video outputs 1&2 will be disabled.

Off: Should be used if you want to use a TV monitor as your main monitor.

VGA Out Quality

VGA Out Quality changes the resolution of the VGA signal available on the 'VGA Out' connector at the rear of the codec.

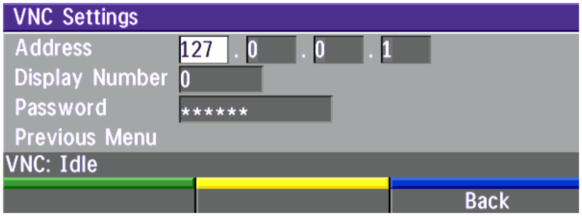
Auto Will sense the resolution on the '**VGA input**' port and use the same resolution on the '**VGA Out**' port.

VGA Will force '**VGA out**' to VGA(640X480).

SVGA Will force '**VGA out**' to SVGA(800X600).

XGA Will force '**VGA out**' to XGA(1024X768).

VNC Settings



NOTE **VNC Server Software Setup**

- Both the PC and the videoconferencing system must be connected to the same LAN.
- A VNC server must be installed on the PC. Free software can be downloaded from http://www.uk.research.att.com/vnc
- Install the software by running the downloaded file.
- To configure the VNC Server software :
  - Select "Accept Socket Connections".
  - Select "Auto" for "Display Number". 'Display Number' in the system must then have the value 0.
  - Enter a password in the "Password"-field. Must correspond with the 'VNC Settings' on your system.

Address

The IP-address of the PC with the VNC software installed. To find the IP-address of a PC running Windows 2000, select 'Command Prompt' from the Startup-menu. Then type 'ipconfig' and press ENTER.

Display Number

The display number for VNC is 0 and upwards. If you are using WinVNC, double-click on the icon on the toolbar to view 'WinVNC properties'. This number should correspond with 'Display Number' in this menu.

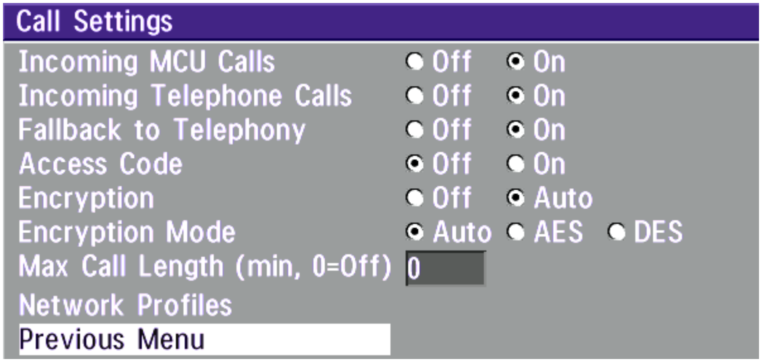
Password

Enter the same password as specified in WinVNC properties. The password will be shown as asterisk signs (*) the next time you enter the menu.

Start using VNC

To activate VNC, press '**PC**' on the remote control. See also 'PC SoftPresenter' section for further information.

Call Settings



Incoming telephone calls

On: The system will accept incoming telephone calls.

Off: The system will not accept incoming telephone calls. This is useful to prevent incoming calls from systems other than videoconferencing systems.

Fallback to telephony

On Enables fallback from video calls to telephony/speech calls.

Off Disables fallback.

Access Code

On When pressing CONNECT or any number to make a call, an Access Code menu will be shown. The user will then have to enter the correct Access Code in order to make a call.

Off No Access Code is necessary to make a call.



Encryption (Secure Conference)*

Auto The system will try to set up calls using encryption.

Point to point calls: If the far end system supports encryption, the call will be encrypted. If not, the call will proceed without encryption.

ISDN MultiSite calls: In order to have encrypted MultiSite calls on ISDN, all sites must support encryption. The padlock symbol will indicate encryption mode (AES* or DES). If there is a mix of AES* and DES encryption, only the symbol for DES encryption (single padlock) will be displayed.

IP MultiSite calls: Sites supporting encryption will be encrypted and sites not supporting encryption will not be encrypted. The padlock symbol will be shown on the MultiSite if all sites support encryption. The padlock symbol will be shown on the site connected to the MultiSite if this connection to the MultiSite is encrypted.

If the far end supports encryption, the systems will initiate encryption after the call is connected (an ‘open padlock’ symbol will be displayed). When encryption has been established, a ‘closed padlock’ symbol will be displayed.

Off The system will not send or receive encrypted data.

Technical encryption information like encryption algorithm and encryption check code can be found in the ‘Call Status’ menu.

Encryption Mode

Auto The system will try to use the most secure encryption - AES, dependent on the capabilities of the other site. If AES encryption is not supported by the other site, DES encryption will be tried.

AES* The system will try to use AES with 128 bits encryption when setting up ISDN or IP calls. If AES is not supported by the other site, no other type of encryption will be initiated.

DES The system will always try to set up the call using DES with 56 bits encryption on ISDN and IP. If DES is not supported by the other site, no other type of encryption will be initiated.

TIP BOTH AES* AND DES ENCRYPTION IS SUPPORTED FOR MIXED ISDN/IP CALLS. IN ADDITION AES* -AND DES ENCRYPTED SITES CAN BE CONNECTED AT THE SAME TIME.

* Optional feature

Max Call Length

This feature will automatically end both incoming and outgoing calls when the call time exceeds the ‘Max Call Length’ specified.

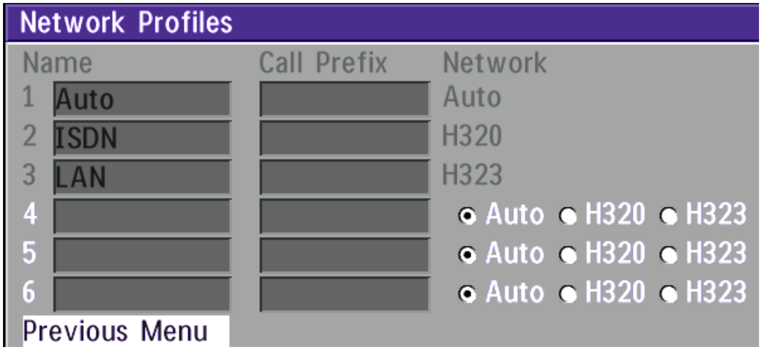
Max Call Length can have the following values: 0-999(minutes), where 0 is Off.

A few minutes before the specified time is reached, a Quick-Key menu will appear. Users will be asked if he/she wants to extend the specified ‘Max Call Length’:



Network Profiles

This menu defines the settings listed when pressing the Quick key ‘**Net:**’ while in the dial menu.



This menu consists of 6 network profiles, a prefix can be added for each profile. If you add a prefix to a profile, this prefix will automatically be added to the number being dialed.

EXAMPLE: 0 IS ADDED AS A CALL PREFIX TO THE 2ND PROFILE, ISDN. IF YOU ENTER 12345678 IN THE DIAL MENU AND SELECT 'ISDN', THE NUMBER DIALED WILL BE **0**12345678.

Using the three last profiles you can enter the name of a profile, prefix and network selection. This is useful if you have a fixed prefix for your service provider.

Dataport configuration

The system provides one standard RS 232 serial port to allow a computer to be connected for data transfer and control purposes.

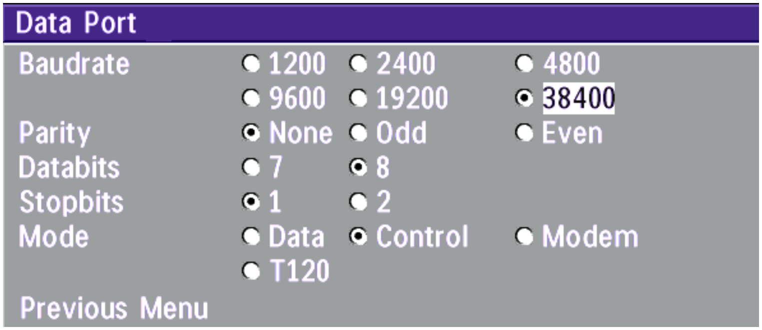
NOTE When connecting to a PC the connecting cable *must* be a straight through RS232 cable.

Dataport

If you wish to connect a PC to the Dataport, you must ensure that the PC and the system are identically configured. The available settings are:

The Dataport supports 4 different modes:

Data mode



Provides a transparent data channel. This channel can be used for many different purposes such as file transfer, application sharing and more. When using this mode, it is necessary to have a TANDBERG system at the far end.

Control mode

The control interface provided by the Dataport supports a subset of the Hayes command set as well as a comprehensive set of system specific commands.

This mode maintains communication with the Dataport's command interpreter at all times. All features available from the hand-held remote control can be accessed through the dataport.

Modem mode

Allows you to control the system externally via a PC as in Control Mode. Once a call is established, Dataport 1 will automatically switch to Data mode. When the call disconnects, Dataport 1 switches back to Control Mode.

T.120

Provides a data channel supporting the T.120 standard for data communication. Using T.120 software on your PC, you can communicate with other T.120 systems using your PC and your system.

For more details on connecting to the Dataport, see 'Peripheral Equipment'.

Language

The system supports 11 different languages for its on-screen menus.

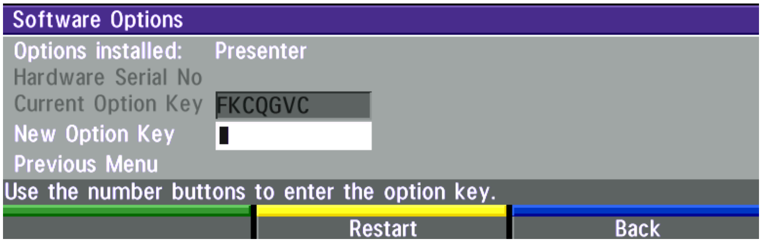


Select the preferred language, and then press OK to save.

Software Options

The system requires a valid option key to activate Security (contains Secure Conference AES) and/or Presenter functionality.

A restart of the system is required after entering a new option key. If the option key is invalid, the original key will be used.

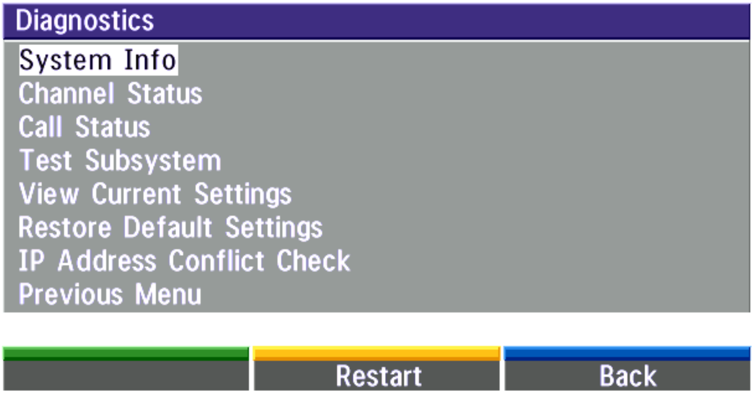


The following options are available

1. No option
2. PP (Presenter)
3. Security + PP

Diagnostics

Allows testing of individual system components and displays the current system settings.



System info



Select ‘ **System Info**’ to view system numbers, line status, software version and other useful information.

Channel status

Comprehensive information about the call progress is available through the Channel Status window.
This window indicates the various stages each B-channel goes through whilst establishing a connection.

Status - BRI	Comments
Idle	the channel is idle
Calling	when calling — the network has acknowledged the call
Connected	when connection is established
Sync	when the channels are synchronised
Active	when all available channels are connected
Releasing	waiting for the network to confirm a release of the call
Released	when disconnected - the network has acknowledged the disconnection



TIP PRESS **MENU** AND THEN '**CALL STATUS**' TO BRING THIS MENU UP WHEN NOT IN THE MENU SYSTEM.

The numbers used to call out to the far end are shown in the window. If an error occurs a cause code will be displayed on the right hand side of the window.

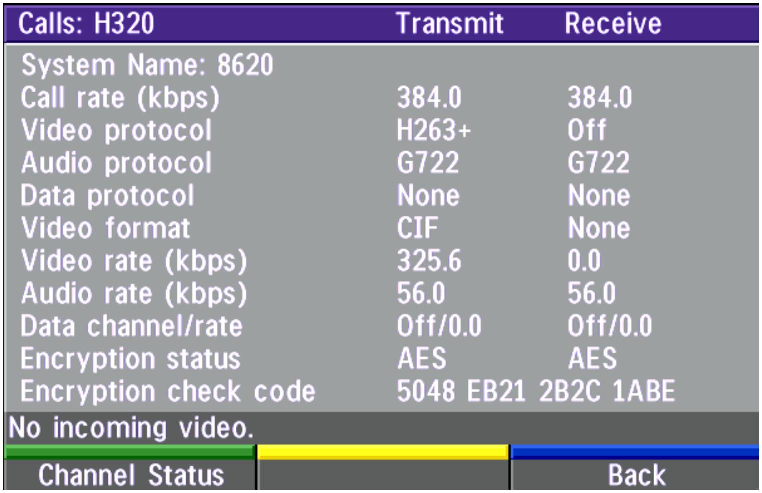
Cause codes

The most common cause codes (for ISDN) are:

1 -	Unallocated (unassigned) number
2 -	No route to specified transit network (WAN)
16 -	Normal clearing
17 -	User busy
18 -	No user responding
21 -	Call rejected
28 -	Invalid number format (incomplete number)
29 -	Facility rejected
31 -	Normal, unspecified
34 -	No circuit/channel available
41 -	Temporary failure
58 -	Bearer capability not presently available
65 -	Bearer service not implemented
69 -	Requested facility not implemented
81 -	Invalid call reference value
88 -	Incompatible destination
100 -	Invalid information element contents
102 -	Recovery on timer expiry
127 -	Internetworking, unspecified
255 -	TANDBERG specific. undefined cause code

Call status

Comprehensive information about the call is available through the Call Status window. The menu has two columns, one for transmitted and one for received audio/video/data information.



Calls: H320	Transmit	Receive
System Name: 8620		
Call rate (kbps)	384.0	384.0
Video protocol	H263+	Off
Audio protocol	G722	G722
Data protocol	None	None
Video format	CIF	None
Video rate (kbps)	325.6	0.0
Audio rate (kbps)	56.0	56.0
Data channel/rate	Off/0.0	Off/0.0
Encryption status	AES	AES
Encryption check code	5048 EB21 2B2C 1ABE	

No incoming video.

Channel Status | | Back

Please contact your TANDBERG representative for further information.

Restore defaults

You may restore all system settings to the factory default using this function.

NOTE THIS DEFAULT SETTING WILL NOT AFFECT YOUR CALL DIRECTORY INFORMATION, NETWORK TYPE, LINE SETUP NUMBERS OR YOUR SPID NUMBERS

IP Address Conflict Check

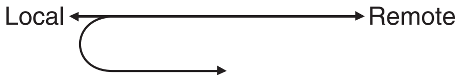
The codec will give a warning if there is an IP conflict. This check may be initiated by the user by selecting IP Address Conflict Check.

Test subsystem

You can test the different subsystems of your videoconferencing equipment.



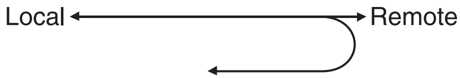
Far End Loop (ISDN only)



SetLocal: This system will loop all incoming audio and video.

- The far end will see its own video and hear its own audio.
- The local side will see and hear the far end.

An on-screen indicator will indicate ‘Local Loop’.



RequestRemote: A request will be sent to set the far end in loop.

- The far end will see and hear the local side (varies depending on implementation of loop functionality).
- The local side will see its own video and hear its own audio (if the far end supports loop).

If ‘Far End Loop’ is set to ‘RequestRemote’ while in a call and the call is subsequently disconnected, ‘Far End Loop’ will be set to ‘Off’.

System Selftest

The system performs a check to determine internal hardware integrity. Test Network is useful when you want to check if your network connection is active.

View current settings

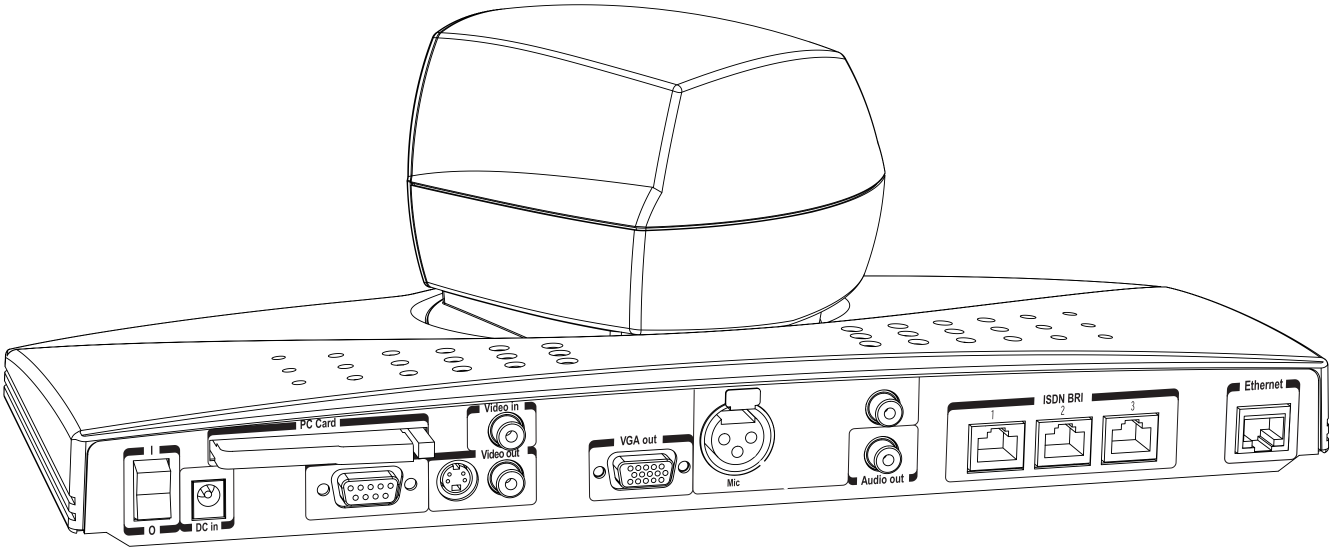
This window will display all the system settings. Use the arrow keys to scroll through the list.

Peripheral Equipment

Using the optional peripheral devices outlined in this chapter and the many others available, you will be able to build your own applications for use with the TANDBERG 550, thereby better integrating the system into your business environment.

This chapter will explain how to connect peripheral equipment to your system. First of all however, we recommend you examine the figure below detailing the available connectors on the back of the system Codec.

Interfaces



2 Video Inputs

- 1 video input used by the built-in camera.
- 1 video input supporting composite signals through RCA connector.

The system will automatically adapt to a PAL or NTSC input.

3 Video Outputs

- 1 S-Video output, Mini-DIN connector.
- 1 composite video output, RCA connector.
- 1 VGA output supporting resolutions VGA(640x480), SVGA(800X600) and XGA(1024x768).

The format of the output will be either PAL or NTSC depending on your country's standard video format.

2 Audio Inputs

- 1 microphone input (balanced, 11V phantom powered) via XLR connector.
- 1 audio input (line level) via RCA connector.

All audio inputs are active by default. For further information, refer to section 'Audio Settings'.

1 Audio Output

- 1 output (line level) via RCA connector providing audio from far end in addition to dial tones. This output is used by the monitor.

Document camera

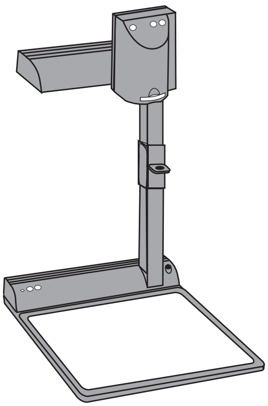
A document camera can be used for showing text, diagrams and a variety of graphical material as well as small three-dimensional objects. To use a document camera with your system:

- Connect the document camera to the ‘Video in’ input on the Codec.

doc cam

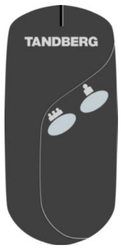


- Press **Doc Cam** on the remote control to select the document camera as the video source.



Tracker

The Tracker is a small infrared remote control device made to used to steer the system camera to any desired location within the room. Typically, several Trackers would be used with each system.



Each Tracker has two buttons:

- One button to point the camera at a specific person/location.
- One button to point the camera at all participants.

Appendices

Appendix 1: Security

The TANDBERG Videoconferencing Unit has several features both to protect from unauthorized use and system access:

Access Code:

When ‘Access Code’ is enabled, the user will be asked to enter an access code before he/she is able to make a call.

The system will verify if the entered access code is valid by checking the code with the allowed codes listed in the ‘access.txt’ file on the ftp-server in the codec.

If no ‘access.txt’ file is uploaded to the codec, registration of the code will be done without validation. E.g. you can enter whatever code you want and have access to the system.

The ‘access.txt’ file is a plain text file with one line per access code as shown below:

```
1234
1250
A1
B2
ABC
```

To upload this file to the codec, follow these steps:
· Open a DOS-window and go to the folder where the ‘access.txt’ file is located.
· Type ftp <IP-address of your local codec>.
· ‘User:’, press Enter or enter IP-password.
· Type “bin” and press Enter
· Go to the user folder, type “cd user”.
· Upload the ‘access.txt’ file, type ‘put access.txt’.
· Exit from ftp, type ‘bye’.

Menu Password:

Access to the menu system on the TANDBERG Videoconferencing unit can be controlled using password protection. This is done by using the following dataport command:

menupassword set <pin-code>. The pin-code should be maximum 5 - five digits. To erase the menu password, enter an empty pin-code.

Streaming password

By setting a streaming password in the streaming menu on the TANDBERG codec, a password have to be entered on the streaming client to be able to see the videostream from the TANDBERG Videoconferencing Unit.

IP Password

By setting a IP Password on the TANDBERG codec, all access to the system using IP (Telnet, FTP, WEB) requires a password. This password can be enabled from telnet or dataport using the command: ippassword “<ip-password>”.

To remove this password, use the command: ippassword ””. From telnet, this is only possible by first entering the correct password.

Services

The different IP services on the TANDBERG codec - FTP, Telnet, HTTP, SNMP and H.323 can be disabled to prevent access to the system. By using the commands below, the services can be independently enabled/disabled:

services <telnet/ftp/http/h323/remote-software> <enable/disable> .

In addition, the command ‘services <snmp> <read-only/enable/disable>’ will make it possible to read SNMP messages in addition to enable/disable SNMP.

SNMP Security alert

This function will notify any Management Application (such as TMS - TANDBERG Management Suite) if anyone tries to perform Remote Management on the TANDBERG Codec using a illegal password. The Security alert that is sent to the Management Application will contain information about the IP address and the service (WEB, Telnet, FTP) being used for the attempt.

If TMS is used, email notifications or alarms about the attempt can be sent to specified persons. persons.

Encryption

All TANDBERG systems support both AES* and DES encryption. By default this feature is enabled such that when connecting with any other video system or MCU, a TANDBERG system will attempt to establish a secure conference using AES* or DES encryption. The TANDBERG system will attempt this for both IP and ISDN connections. Where a remote system or MCU supports encryption, the highest common encryption algorithm will be selected on a port by port basis.

The type and status of the encryption negotiated is indicated by padlock symbols and on-screen messages. Encryption on the TANDBERG systems is fully automatic, and provides clear security status indicators;

An open padlock indicates that encryption is being initialized, but the conference is not yet encrypted.

Single padlock indicates DES encryption.

Double padlock indicates AES encryption.

In addition to on-screen indicators the ‘Call Status’ menu provides two information fields regarding call encryption. The first field is the ‘Encryption Code’ which will identify either ‘AES’ or ’DES’. The second field is the ‘Encryption Check Code’ and is comprised of an alphanumeric string. This string will be the same for systems on either side of an encrypted conference. If the Check Codes do not match this would indicate that the call has been exposed to a ‘Man In The Middle’ attack.

When a TANDBERG codec with MultiSite functionality hosts a conference, the highest possible encryption algorithm will be negotiated on a site by site basis. MultiSite conferences can therefore support a mix of AES and DES encrypted endpoints in the same conference.

A conference will only be as secure as its ‘weakest link’. Even though conference participants may have negotiated and be running AES encryption, if just one participant has negotiated DES encryption, the AES system will display the single padlock symbol to advise all users of the lowest encryption mechanism currently in effect.

All TANDBERG endpoint supporting DES encryption can upgrade to AES encryption by applying TANDBERG’s AES Encryption option. Please contact your TANDBERG representative for more information.

The standards supporting the encryption mechanisms employed by TANDBERG are: AES*, DES, H.233, H234 and H.235 with extended Diffie Hellman key distribution via H.320, H.323 and Leased Line connections.

* - Optional feature

Appendix 2: Using the file system

It is possible to access a file system within the TANDBERG system by using ftp:
DOS-window: ftp <IP-address of codec>, or
Web-browser: ftp:// <IP-address of codec>

Description of the different files

all.prm - all settings in the system (including directory)
dir.prm - directory entries
event.log - logs fault sitations etc.
sw.pkg - the system software
globdir.prm - file containing up to 400 entries. These entries can not be edited from the TANDBERG Videoconferencing system, but can be edited as a text-file.

Files accessible only by 'ftp get /tmp/snapshots/xxx.jpg' or 'http://<IP-address of codec>/tmp/snapshots/xxx.jpg':
main.jpg - Snapshot of current stream.
local.jpg - Snapshot of selfview
farend.jpg - Snapshot of decoded stream if point-to-point.

Description of the different folders

user - a folder to be used for custom logos etc.
remote - a folder used for software upgrade of the far end TANDBERG system

What can be done by using the file system?

· software upgrade of the far end TANDBERG system (B3 or above) via ISDN
· upload of custom logos

Software upgrade

· Connect to the system you want to upgrade using ISDN.
· Copy the software file to a folder on your harddisk.
· Open a DOS-window and go to this folder.
· Type ftp <IP-address of your local codec>.
· Enter password: <Release Key of far end system>
· Go to the remote folder, type "cd remote"
· Upload the software file, type put <s0xxxxxx.pkg>
· Wait until the following is shown:

```
226 Closing data connection.
5437569 bytes sent in 808.01 seconds (6.73 Kbytes/sec)
ftp>
```

· Restart the far end codec.
The far end system should now be upgraded. For further information, please contact your TANDBERG representative.

Custom logos

· Go to the folder where your logo is located.

NOTE LOGO MAX SIZE: 704X480 FILE-FORMAT: JPG. IF THE FILE IS TOO LARGE, NO LOGO WILL BE DISPLAYED.

· Type ftp <IP-address of your local codec>.
· Go to the user folder, type “cd user”
· Upload the logo, type put <startup.jpg>

The new logo will be displayed the next time you restart your system.

Appendix 3: Declaration of Conformity

EC DECLARATION OF CONFORMITY

MANUFACTURER:	TANDBERG
TYPE NUMBER:	TTC7-05
MODEL NUMBER:	TANDBERG 550
DESCRIPTION:	Video Conferencing Unit
DIRECTIVES: **This equipment complies with.**	LVD 73/23/EEC EMC 89/336/EEC R&TTE 99/5/EEC
HARMONISED STANDARDS: **Applied in order to verify compliance with directives.**	EN 60950 : 1992 A1/A2/A3/A4/A11 EN 55022 : 1994 EN 61000-3-2 : 1995 A1/A2 EN 61000-3-3 : 1995 EN 55024 : 1998 CTR3 Layer 1, 2 and 3

TEST REPORTS/ CERTIFICATES ISSUED BY:

		Report/Certificates No.:
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EMC	(Nemko AS)	200148249 rev. A
R&TTE	(Comlab)	2001/06601/4 2001/06601/3

TECHNICAL CONSTRUCTION FILE NO.: D12821

YEAR WHICH THE CE-MARK WAS AFFIXED: 2002

TESTAUTHORISED SIGNATORY

AUTHORISED REPRESENTATIVE — **Date of issue**

NAME : SVERRE KJENNE — **19.02.2002**
TITLE : PRESIDENT

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